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University
of Glasgow

Undergraduate Students' Development of Lifelong Learning Attributes in Tanzania

Mpoki John Mwaikokesya
B.Ed (Hons); M.A (Ed.) Dar-es-Salaam

**A Thesis Submitted in Fulfilment of the Requirements for the
Degree of PhD in Education**

**School of Education
College of Social Sciences
University of Glasgow**

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To the late Erika for her passion for learning and her constant encouragement
for me to follow my dream.

Abstract

This thesis examines the extent to which undergraduate students' personal and institutional experiences influence their capacity to change and develop as lifelong learners in Tanzania. My interest in the topic grew out of my recognition of the need to maintain a critical eye on the purpose of higher education in Tanzania and to establish whether or not the recent education reforms introduced in higher education had had an influence on lifelong learning. The core question in this study was to determine whether or not higher education in Tanzania develops students as lifelong learners and what the underlying factors influencing such development might be. The students' lifelong learning attributes in this thesis were operationalised using four major constructs, namely, 'learning to learn' skills, 'personal agency', 'information skills' and 'entrepreneurial skills'.

This study adopted a case study longitudinal research design that involved two waves of data collection with the use of a mixed methods approach for triangulation purposes. It involved following a sample first-year cohort of students at one of the public universities in Tanzania ($n=839$, that is, 621 males and 218 females) through Year 2. A small number of participants ($n=59$) [that is, students ($n=23$), lecturers ($n=26$), librarians ($n=4$), policy elites ($n=3$) and school deans & college principals ($n=4$)] took part in semi-structured interviews. The sample of students and lecturers was drawn from four distinct academic disciplines, namely, Accounting, Engineering, Science and Sociology.

The results with respect to the longitudinal study showed that there were statistical significant changes in the Inventory of Learning Styles (ILS) sub-scales of 'stepwise processing' strategies and 'certificate-directed' and the 'self-test' learning orientations. Statistical significant changes were also noted in the ISS sub-scales of 'ethical use of information', 'accessing information' and 'evaluating information'. These changes, however, seemed to occur relatively slowly. No improvements were found with regard to 'entrepreneurial skills'. The slow rate and the absence of changes, seemed to be partly the results of the unclear, limited and somewhat slow implementation of policies related to the integration of higher education with lifelong learning.

The findings also indicated that there were effects from personal and contextual factors on 'processing' and 'regulation' learning strategies for some of the constructs. The correlation results indicated that the students' personal beliefs were associated with their choice of processing and regulation strategies, suggesting that learning orientations were important predictors of students' processing and regulation learning strategies. In addition, the results showed that the contextual variables, such as lecturers, the teaching objectives and assessment procedures, as well as the social environments, such as friends, constituted significant predictors for student development of lifelong learning attributes.

These findings suggest that the undergraduate students' development of lifelong learning attributes is influenced by a variety of individual and contextual variables. In the light of the findings from the present study, a number of recommendations are made both for future studies and for policy.

Table of Contents

Abstract	iii
List of Tables	x
List of Figures	xi
Acknowledgements.....	xii
Author's Declaration	xiv
Abbreviations & Acronyms.....	xv
Chapter 1 Background and context	1
1 Introduction	1
1.1 The profile of higher education in Tanzania	4
1.2 Lifelong learning in higher education in the context of Tanzania.....	7
1.3 The problem.....	11
1.4 Research questions.....	12
1.5 Justification of the research.....	12
1.6 Origin of the study	15
1.7 The structure of the thesis.....	16
Chapter 2 Review of related literature.....	19
2 Introduction.....	19
2.1 The concept of learning	19
2.2 The concept of lifelong learning	21
2.2.1 Philosophical roots of lifelong learning	24
2.2.2 Lifelong learning models	26
2.2.3 The maximalist and minimalist perspectives of lifelong learning ...	29
2.3 Lifelong learning in the African context	30
2.3.1 Traditional lifelong learning in Africa	31
2.3.2 Recent developments in lifelong learning in Africa	32
2.3.3 Lifelong learning and self-directed learning.....	36
2.3.4 Self-directed learning in the context of LLL and HE institutions	39
2.3.5 Lifelong learning and metacognition	40
2.3.6 Lifelong learning in the context of higher learning institutions	41
2.4 Higher education and graduate attributes.....	43
2.4.1 Limitations with graduate attributes	46
2.5 The attributes of a 'lifelong learner'	46
2.6 The attributes of a 'lifelong learner' in the present study.....	50
2.6.1 Learning-to-learn	52

2.6.2	Personal agency.....	53
2.6.3	Information skills	55
2.6.4	Entrepreneurial skills	57
2.7	Research in higher education.....	60
2.7.1	College impact research tradition	60
2.7.2	Students' approaches to learning (SAL) research tradition	61
2.8	Previous studies on undergraduate students' development of a LLL capacity.....	64
2.9	The theoretical and analytical framework underlying this thesis	68
Chapter 3 Research methodology		73
3	Introduction.....	73
3.1	The purpose and research questions.....	73
3.2	The research design	74
3.2.1	Qualitative, quantitative and triangulated approaches.....	76
3.2.2	Types of data.....	79
3.2.3	Data collection and instrument design and development	80
3.2.4	The participants	86
3.3	Data Analysis	89
3.3.1	Examining the national and institutional policies influencing LLL ..	89
3.3.2	Examining the relationship between students' progression in HE and an increase, a decrease or a stability in their LLL skills	89
3.3.3	Assessing the personal and contextual variables influencing students' development of LLL skills.....	90
3.3.4	Credibility & dependability of the qualitative findings.....	92
3.4	Ethical considerations	92
3.5	Summary.....	93
Chapter 4 Higher education & lifelong learning policy context and influence		94
4	Introduction.....	94
4.1	The concept of policy and rationale underlying the examination of educational policy in the present study	94
4.2	Research questions.....	96
4.3	A framework for analysing policies	96
4.4	Procedures.....	98
4.5	Tanzanian higher education sector context analysis.....	99
4.5.1	Legal framework underlying higher education and lifelong learning in Tanzania.....	102
4.6	Trends in Tanzanian higher education policy	103
4.6.1	<i>Phase One</i> : early independence	105

4.6.2	<i>Phase Two: 1967 - mid-1980's [Education for Self-Reliance (ESR)]</i>	106
4.6.3	<i>Phase Three: Mid-1980's - mid-1990's (liberalisation & privatisation)</i>	109
4.6.4	<i>Phase Four: late 1990's to date - the Tanzania Development Vision 2025</i>	113
4.7	The influence of university policies on lifelong learning	114
4.7.1	The influence of university aims and mission statements on LLL ..	116
4.7.2	The course effects on lifelong learning	118
4.7.3	The effects of course objectives	119
4.7.4	The effects of course structure	119
4.7.5	Students' enrolment expansion policies and effects on LLL	121
4.8	Key themes and issues emerging from the policy analysis	123
4.8.1	Conceptual problems, ambiguities and the lack of clarity	123
4.8.2	Ideological and historical effects	124
4.8.3	Quality versus quantity and the diminishing infrastructure effect on lifelong learning.....	125
4.8.1	Absence of a prescribed lifelong learning policy, incomprehensive policy documents and discrepancies between vision and reality	125
Chapter 5 Stability and variability in 'processing' and 'regulation' strategies, 'personal agency', 'information skills' and 'entrepreneurial skills'		127
5	Introduction	127
5.1	Research question	127
5.2	Sample and procedures	127
5.2.1	The interview schedules.....	130
5.2.1	The Survey.....	131
5.2.2	Dependent variables	132
5.3	Results	133
5.3.1	Internal consistency	133
5.3.2	Change and stability in 'processing strategies', 'regulation strategies', and 'learning orientations' between time 1 and time 2.....	136
5.3.3	Processing strategies.....	139
5.3.4	Regulation strategies.....	140
5.3.5	Learning orientations	140
5.4	Information skills	141
5.4.1	Pre-university information skills.....	144
5.5	Year 1 information skills.....	146
5.6	Pre-university and Year 1 entrepreneurial skills	148
5.6.1	Social entrepreneurial activities in informal organisations and networks.....	149
5.7	Year 2 information skills and entrepreneurial skills	150

5.8	Consistency and variability by age and gender over time	152
5.9	General university experience over time	154
5.10	Difficulties, barriers and limitations in students' development of lifelong learning abilities	156
5.10.1	Limited access and general lack of information resources: ' <i>only half an hour to use computers</i> '	156
5.10.2	Socio-economic status and access to information resources: ' <i>I'm from a very remote area</i> '	158
5.10.3	Personal and structural factors influencing the adoption and development of some LLL skills	159
5.11	Chapter summary	161
Chapter 6 Personal and contextual variables influencing students' 'learning- to-learn' skills, 'personal agency', 'information skills' and 'entrepreneurial skills'		164
6	Introduction	164
6.1	Research question	164
6.2	Data and analysis procedures	165
6.3	Results	166
6.3.1	The association between 'personal agency' and 'processing strategies', 'regulation strategies' and 'information skills'	166
6.3.2	The effect of gender	168
6.3.3	The influence of age	172
6.3.4	The effect of academic disciplines on 'processing strategies', 'regulation strategies', 'learning orientations', 'information skills' and 'entrepreneurial skills'	173
6.3.5	Social factors and self-influence on lifelong learning	186
6.3.6	The influence of family, friends and significant others	187
6.3.7	Lecturers' contextual influence: ' <i>exams will come from these handouts</i> '	188
6.3.8	Supportive versus less supportive lecturers' contextual influence: ' <i>lecturers are here to fail us..!</i> '	189
6.4	Chapter summary	195
Chapter 7 Discussion		198
7	Introduction	198
7.1	An overview of the study, purpose of the study, design and research questions	198
7.1.1	Research Design	199
7.1.2	Internal consistency of the scales	201
7.2	Discussion of the main findings	202
7.2.1	The higher education and lifelong learning policy context and influence	202

7.2.2	The stability of and variation in students' development of lifelong learning attributes over time	207
7.2.3	The contextual and personal factors influencing students' development of 'processing and regulation' strategies, 'personal agency', 'information skills' and 'entrepreneurial skills'	213
7.3	Chapter summary	221
Chapter 8 Conclusion, major research findings and implications for research and policy		223
8	Introduction	223
8.1	An overview of the thesis	223
8.2	Main research findings	224
8.2.1	Validity and reliability of the instruments	224
8.2.2	The policies' influence on the integration of LLL in Tanzania	224
8.2.3	The consistency and variability in 'learning-to-learn', 'personal agency', 'information skills' and 'entrepreneurial skills'	226
8.2.4	The personal and contextual variables influencing LLL	228
8.3	Contribution	231
8.3.1	Contribution to literature	232
8.3.2	Practical contribution	234
8.4	The study limitations and future research	238
8.5	Conclusion	241
List of References		243
Appendices		271

List of Tables

Table 2.1	Key focus in each of the lifelong learning models	28
Table 2.2	Characteristic elements of a lifelong learning HEI	34
Table 2.3	Objectives of instruction in the context of lifelong learning	48
Table 2.4	The lifelong learning attributes examined in the study	52
Table 2.5	Scenarios for avenues for learning entrepreneurial skills	59
Table 2.6	Approaches to learning	63
Table 3.1	Research participants by research instruments	88
Table 4.1	Key educational policies and trends in educational reforms in Tanzania since independence (1961)	104
Table 4.2	Key areas in examining institutional policies.....	116
Table 4.3	A course objectives extract illustrating a sample of teacher-centred versus learner-centred course objectives.....	119
Table 4.4	Extract showing details on elaborate versus uncomplicated course structures	120
Table 5.1	Students' demographic characteristics.....	129
Table 5.2	Sample size & participants in the two phases of data collection by disciplines	130
Table 5.3	Cronbach's alpha coefficients for scales and sub-scales of the ILS and ISS	134
Table 5.4	Mean & standard deviation scores for the ILS and ISS scales & sub-scales across the two phases of data collection	136
Table 5.5	Changes in mean scores for processing strategies, regulation strategies & learning orientations between phase 1 and phase 2 for matched sample ($n=421$)	138
Table 5.6	Changes in mean scores on information skills for the two phases of data collection.....	142
Table 6.1	Students' demographic characteristics.....	165
Table 6.2	Pearson's product-moment correlations between learning orientations and the rest of the ILS and ISS sub-scales	167
Table 6.3	Phase 1 means and standard deviations for males and females on the ILS and ISS sub-scales	169
Table 6.4	Phase 1 means, standard deviations and <i>t-test</i> statistic values for students' age differences	172
Table 6.5	Mean scores for processing strategies, regulation strategies and learning orientations by academic disciplines	179
Table 6.6	Principal sources for socio-cultural influence on lifelong learning as perceived by students	186

List of Figures

Figure 2.1	Hypothetical learner/teacher-centred Control of Learning.....	38
Figure 2.2	Personal Responsibility Orientation (PRO) model.....	39
Figure 2.3	Phases and sub-processes of self-regulation.....	54
Figure 2.4	Hierarchical model for generic skills in higher education	56
Figure 2.5	Sources of entrepreneurial skills	58
Figure 2.6	Main areas of Understanding learning	69
Figure 2.7	Theoretical framework for considering students' development of LLL attributes	70
Figure 4.1	Contexts impinging on lifelong learning & higher education policy .	97
Figure 4.2	The Tanzanian Education System	100
Figure 4.3	Trends in student enrolment 1979-2008	121

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Author's Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is my own original work and has not been submitted for any other degree at the University of Glasgow or any other institution

Mpoki John Mwaikokesya

Abbreviations & Acronyms

ALE	Adult Learning and Education
BEST	Basic Education statistics in Tanzania
CAUL	Council of Australian University Librarians
CEC	Commission of the European Communities
CLLP	Characteristics of Lifelong Learners in Professionals
CONFINTEA	French word for ‘CONFérence INTernationalesurl’ Education des Adultes’, that is, International Conference on Adult Education
CRELL	Centre for Research on Lifelong Learning
DASUSA	Dar-es-Salaam University Sociological Students’ Associations
DS	Development Studies
EARLI	European Association for Research on Learning and Instruction
EC	European Community
EFA	Educational for All
ELLI	Effective Lifelong Learning Inventory
ESR	Education for Self-Reliance
ETP	Education and Training policy
GER	Gross Enrolment Ratio
GNP	Gross National Product
GPA	Grade Point Average
GPI	Gender Parity Index
HEI	higher Education Institutions
IAE	Institute of Adult Education
ICT	Information and Communication Technology
ILS	Inventory of Learning Styles
ISS	Information Skills Survey
ITP	Institutional Transformation Programme
LLL	Lifelong Learning
MINEDEAF	Ministers of Education of African Member States
NFE	Non-Formal Education
OCLI	Oddi’s Continuing Learning Inventory
OECD	Organisation for Economic Cooperation and Development
OUT	Open University of Tanzania
PEDP	Primarily Education Development Programme

PRO	Personal Responsibility Orientation
RSA	Republic of South Africa
SAL	Students' Approaches to Learning
SAPs	Structural Adjustment Programmes
SDLRS	Self-Directed Learning Readiness Scale
SEDP	Secondary Education Development Programme
TCU	Tanzania Commission for Universities
UDSM	University of Dar-es-Salaam
UPE	Universal Education for All
URT	United Republic of Tanzania

Chapter 1

Background and context

1 Introduction

In the past few decades, countries around the world have experienced profound and unprecedented global forces impacting on their social, economic and political systems. Consequently, new structures and systems started to emerge to replace the traditional ones. For example, in education, as a result of the impact of forces such as ‘globalisation’, ‘marketisation’, ‘efficiency and/or quality drive’ and related forces, several structural and qualitative policy turnarounds have been instituted. As a result of the effect of these forces, there has been an increased attention to the need to promote a ‘learning society’¹ (Banya, 2010, p. viii). Similarly, there has been increased attention paid to the promotion of lifelong learning (LLL) skills and the related personal abilities such as self-direction in learning. The growing attention to the cultivation of lifelong learning has also been increasingly noticed in policy discourses and in scholarly papers (for example, Candy *et al.*, 1994; Delor *et al.*, 1996; Field, 2006; Preece, 2006). Similarly, lifelong learning has almost universally been identified as a crucial attribute critical for effective personal and social functioning in the modern world. With this impetus, there has been an increased motive and concern globally for universities and related post-secondary institutions to demonstrate adeptness for developing students’ lifelong learning propensity (Ahmed, 2008; Avis, 2007; Field, 2005; Osborne *et al.*, 2007; Osborne & Thomas, 2003).

The idea of viewing school systems and post-secondary institutions in the context of lifelong learning, however, is not a recent invention among scholars and policy-makers. As early as the 1970’s, critics such as Paulo Freire (1973) and Ivan Illich (1971) set in motion radical ideas aimed at challenging mainstream education systems by introducing terms such as ‘de-schooling’ that implied the

¹ a society where learning is valued for the social, economic and political benefits which it brings; where skills and knowledge are a critical determinant of economic success (at both individual and collective levels) and where a process of socialisation throughout society encourages citizens to see learning as a way of life, throughout life (Keep & Mayhew, 1996, p. 218)

need for reforming and de-institutionalising education from the perspective of lifelong education. The major aim of such ideas was to emphasise the importance of informal learning, in which individuals are able to learn at any stage of their lives. Even before the introduction of such radical ideas, lifelong learning as a philosophy of learning and the imperative for learning from the cradle to the grave had been insisted on in almost all ancient societies throughout the world for many centuries (Bangura, 2006; Nafukho, 2006; Ouane, 2001; Zhang, 2008). It was not until 1972, however, that the adoption of lifelong learning in educational policies was stressed by international organisations such as the EC and UNESCO with global reports such as *Learning to Be* (Faure *et al.*, 1972, p. 182) advocating that: -

‘We propose lifelong education as the master concept for educational policies in the years to come for both developed and developing countries.’

In recent times, a number of critics (Candy, 2000; Candy *et al.*, 1994; Knapper & Cropley, 2000) have consistently advocated the need to reform schools from a lifelong learning perspective. Within this perspective, the traditional educational systems and practices, aimed at equipping students with a package of knowledge considered necessary for the rest of their lives as opposed to endowing them with learning to learn skills, were strongly criticised. However, Edwards *et al.* (2002) observed that despite much debate about the significance of lifelong learning as a policy goal, there is a dearth of empirical studies focusing on this subject. In particular, only limited studies exist on an examination of the extent to which the schooling process contributes to students’ development of lifelong learning skills.

Despite much policy discourse and scholarly papers (for example, Barnett, 2000b; Entwistle, 2009; Field, 2006; Laurillard, 2008; Osborne & Thomas, 2003; Özcan, 2011; Vermunt, 2003) indicating the value of modern universities for promoting lifelong learning, few empirical studies exist to ascertain the relationship between the two variables. Lifelong learning capabilities have particularly been identified as an essential element for individual functioning in the increasingly ‘less pre-determined’, ‘super-complex modern world’²

² See Barnett (2000, p.409) for the use of the terms

characterised by unprecedented rapid changes that necessitates the imperative for constant learning and re-learning (Barrie, 2004; Entwistle, 2009). Other drivers of lifelong learning have been associated with trends in internationalisation and individualisation processes that are accompanied by the revolution in information technology (Dehmel, 2005). As Chapter 2 suggests, throughout these processes, universities have particularly been identified as essential agents through which learners might be groomed into lifelong learning. Within this context, developing a lifelong learning propensity was considered to be crucial for graduates' development of the ability to live, compete, survive and function maximally during and beyond school in the modern world (Candy *et al.*, 1994; Knapper & Cropley, 2000). It is clear from these studies that, like never before, undergraduate university experiences are viewed as a significant means through which individuals would develop an ability to learn and a willingness to continue learning throughout their lives (Candy *et al.*, 1994).

It is suggested that graduate capabilities for lifelong learning are an essential facet for both economic development and for an individual's ability to meet the challenges of the 'knowledge society'³. This vision has frequently been accompanied with a call for universities to prepare individuals to be able to compete in a 'learning society'. Consistently, the discourse about the imperatives of lifelong learning in higher education suggests that developing lifelong learners should become the primary concern for almost all modern educational systems (Duke, 2002). There seems to be a need therefore for educational institutions in both developed and developing countries to shift attention developing lifelong learners and to use lifelong learning as a yardstick for institutional achievements. Bundy (2004, p. 5), for example maintains that: -

'developing lifelong learners is central to the mission of educational institutions and is increasingly reflected in descriptions of graduate qualities, attributes or capabilities. By leading individuals to think critically and by helping them construct a framework for learning how to learn, educational institutions provide the foundation for continued growth throughout the careers of graduates, as well as in their roles as informed citizens and members of communities.'

³ a society with capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development (UNESCO, 2005, p. 27).

Fostering a culture of lifelong learning has also become a major pre-occupation for the rest of the tertiary educational institutions including colleges and vocational education training institutions (Dehmel, 2005). Given this concern, for example, countries in Europe issued a memorandum on lifelong learning in 2000, making lifelong learning ‘a guiding principle for provision and participation across the full continuum of learning contexts’ (CEC, 2000, p. 5).

As suggested in Chapter 2, the imperative for universities to develop lifelong learners is based on the need for countries via their educational systems to be able to develop graduates’ ‘capacity to respond flexibly to the changing circumstances, learn throughout their career and be able to deal with previously unmet situations’ (Bligh, 1982, p. 23). It also implies the need for such institutions to embrace learning in a variety of contexts including formal, non-formal, and informal (Bath & Smith, 2009; Candy *et al.*, 1994).

1.1 The profile of higher education in Tanzania

In Tanzania education is treated as a strategic agent for mind-set transformation, central to the creation of a well-educated nation, sufficiently equipped with the knowledge needed to competently and competitively solve the emerging development challenges (URT, 1998, p. 19). Much of the initial government efforts on education, however, were on achieving Universal Primary Education (UPE) rather than post-primary education. Given this emphasis, in 1980 the Gross Enrolment Ratio (GER) reached 98% followed by regression in the 1990s (Wedgwood, 2007). More recently however, there has been further growth in primary education after the launch of the Primary Education Development Programme (PEDP)⁴, in which the government opted to drop primary school fees in 2001. Critics (for example, Cooksey, 1986; Lassibille *et al.*, 2000) consider the expansion of basic education without a corresponding expansion of post-primary education in Tanzania to be one of the causes of the reduction in transition rates and of the deteriorating quality at all levels of education. With regard to post-basic education, secondary education has been a small sector compared to primary education and there has been a disproportionately high social demand

⁴ The government initiated PEDP in 2001, focusing on providing free primary education, expanding enrolment and improving quality. Through PEDP school fees were abolished; hence there was an increase in the gross enrolment ratio.

for secondary education attainments (Sumra & Rajani, undated). Recent attempts to meet the social demands for secondary education have largely been dependent upon community-built government day schools, which have been in most cases under-resourced. Most of the expansion policy initiatives also have largely been based on quantitative expansion rather than on qualitative improvements (Moshia, 2006). Critics such as Wedgwood (2007) indicate that since the community schools are unevenly distributed across the country, the growth of community schools in recent years has exacerbated the educational inequalities that existed between the late 1980s and early 1990s due to the existence of private secondary schools.

Similar to other post-primary institutions, higher education in Tanzania has traditionally been an extremely small sector in terms of student numbers. Galabawa (1991) estimated that less than 4% of pupils enrolled in primary education would eventually go to University, and, until recently, university education was still largely viewed as a place for minorities. Despite the increase in student enrolments in recent years, the enrolment rate is still lower when compared to other East African countries such as Kenya (Cloete *et al.* 2011; TCU, 2013). As Chapter 4 suggests, one possible reason for the minimal enrolment rate is the effect of the early independence policy emphasis on the expansion of basic education rather than higher education (Cooksey, 1986; Wedgwood, 2007). A study conducted by Lugg *et al.* (2007) suggests that only few Tanzanians have access to higher education. For example, the gross enrolment rate for 2000-1 was only 0.7% with a very large gender imbalance (the rate for males was 1.2 per cent and only 0.2 per cent for female)⁵. Tanzania's enrolment in higher education is also far behind enrolment in other countries such as Ghana, which in the same year had an estimated 3% of the 18-21 age group participation in higher education of which 30% were females⁶.

With regard to gender balance, more gender equity seems to exist in primary schooling than in higher education. For example, the high degree of equity in primary education which already existed has been maintained since 2000. There were 48.9% females and 51.1% males in 2005, with a GPI of 0.99 in 2006 (Wood,

⁵ See, <http://www.sussex.ac.uk/wphegt/tanzania>

⁶ See, <http://www.sussex.ac.uk/wphegt/ghana>

2007, p. 5). Some studies, however, indicate that a greater proportion of girls never attend school, and the average number of completed years of schooling is lower for girls than for boys (Masanja, 2004). Studies further indicate that gender inequality in education is especially persistent in marginalised areas where traditional attitudes are predominant (Meena, 1996; Mluma, 2005).

Cooksey (2003) maintains that gender inequalities in schooling increase from the primary level upwards and the girls' performance is significantly below that of boys in the primary school leaving examination and in post-primary science related subjects. Possible reasons for the gender inequity and inequality in education include factors such as negative cultural values, attitudes and practices that foster teenage pregnancy, early marriage, sexual harassment, excessive domestic chores and the disregard of the importance of girls' education (Mluma, 2005).

With regard to higher education, as Chapter 4 suggests, the development and the evolving features of higher education in Tanzania have essentially been influenced by factors such as the changing country's political objectives and economic constraints and the government's need for highly qualified manpower. The aim of establishing the first university in Tanzania in 1970 was originally to train high level bureaucrats to fill administrative positions in the state organs (UDSM, 2011). However, given the increased socio-economic challenges, the number of universities has increased from only one public university until the late 1980's, into eleven (11) public and twenty-one (21) private universities in 2012 (TCU, 2013). Despite this increase in universities, however, the UDSM remained Tanzania's largest and most prestigious university. Oketch (2009) indicated that, despite the significant expansion of universities in Tanzania since 1995, the majority of the newly established private universities remained small in nature and were faced with resource constraints. Likewise, the majority of the newly established public universities were created as constituent colleges of the University of Dar-es-Salaam such that many of the practices and traditions have been exported from this university.

In terms of financing, the public higher education institutions in Tanzania have traditionally largely been dependent on government subvention to fund their activities. However, from the 1980's, as a result of economic hardships, the

government financial support for the Universities steadily declined (UDSM, 2011). Thus in the early 1990's Tanzania started implementing a cost-sharing higher education policy in which some of the costs of public higher education were shifted towards the individual families or students (Ishengoma, 2004). The justification for the introduction of such a cost-sharing policy in education was the government's efforts to boost access and participation.

With regard to governance and management structure, historically the president has been a university Chancellor. However, with the recent growth of universities in size and complexity and the increase in staff and student populations, several administrative and structural changes in governance have been instituted. Following the transformations made, the governance structures for most universities have largely been based on a bicameral arrangement governed by the Council and the Senate, which oversees the academic programmes. However, the Ministry of Education, through the Tanzanian Commission for Universities (TCU)⁷ and the Directorate of Higher Education, remains the overall regulatory body for higher education. It manages different related matters such as policy formulation, monitoring of higher education, registration of universities, student enrolment, quality assurance, awards and accreditation of Universities (UDSM, 2011).

1.2 Lifelong learning in higher education in the context of Tanzania

As the foregoing discussion suggests, Tanzania, like other countries, has been impacted by the forces of globalisation and market liberalisation. Since independence in 1961, the country has been pursuing socialist policies. However, given the acute micro-economic instability experienced from the late 1970's, the government started re-thinking its national policies and considered the adoption of imposed IMF/World Bank micro-economic re-structuring programmes.

As indicated in Chapter 4, from 1985 as a result of both the deteriorating internal socio-economic conditions and increasing external forces, a significant

⁷ The Commission was established in 1995 as an umbrella organisation responsible for university recognition and accreditation in Tanzania (TCU, 2013).

number of social, economic and political transformation programmes started to be rolled out. From the year 1986, for example, the country started implementing major IMF/World Bank sponsored structural transformations in various sectors including a shift from the government-centralised economy (which guided the country in the past) into market-oriented economic policies in which competitiveness and lifelong learning were imperative. The political transformations made included a shift from a single party political system into a multi-party political system in 1992, which also implied the need for lifelong learning to achieve goals such as social justice and active citizenship (Field, 2005; Osborne, 2003). Given the introduction of numerous socio-economic transformations, the pattern of education in Tanzania was greatly impacted with the need to recast and reform it into a more appropriate and relevant education system to suit the needs of the 21st century (Mushi, 2009).

As suggested later in Chapter 4, the policy changes in education included the introduction of private schools and user fees. Critics (for example, Bonal, 2002; Varvrus, 2005) suggest that some of the expectations of the IMF/World Bank policy reforms were excessive and unrealistic and had more negative than positive impacts. Negative impacts emerging from the cost-sharing policy, for example, included a considerable growth in demands for poor families to contribute to schooling costs, even though the value of parental income was declining (Varvrus, 2005). Some studies associate the adoption of IMF/World Bank imposed policies with the emerging problems in education such as an increasing unequal access to education, an increase in educational absenteeism and school failure, a shrinkage in access and a decline in performance (Cloete *et al.*, 2011)

Some of the reforms made in higher education as a result of the changing environment coping with the impacts of globalisation included re-defining the Universities' roles, missions and functions and reviewing educational provisions (Altbach, 1987; Mosha, 2006; Mushi, 2009). Transformations also included reforming curricula to ensure the programmes offered are relevant and the higher education systems are able to keep up with emerging challenges such as the increased demand for higher education (Altbach, 1987; Cooksey *et al.*, 2003).

At the university of Dar-es-salaam (UDSM), for example, reforms have been made since the mid-1990's with 'a desire to improve largely outmoded institutional traditions and operations to adopt new ways of doing things' (Nkunya & Ishumi, 2003, p. 1). The transformations made included revamping all courses on offer and pruning several courses that were considered to be outmoded, such as curricular aspects focusing on consolidating Tanzania as a single party system. Reforms also included the introduction of a constant watch over the quality of the teaching-learning environment and the launching of a quality assurance policy in 2007 in an attempt to improve the value of its provisions. The university also reviewed its institutional academic units and structures in an attempt to generate maximum top-quality university outputs (Nkunya & Ishumi, 2003, p. 2; see also, UDSM, 2005).

Additionally, in 1994 the university launched its institution-wide transformation strategy, namely, the 'Institutional Transformation Programme '(ITP)⁸ designed to enhance the relevance and quality of University outputs. The ITP scheme was also aimed at enabling the university to face the pressing challenges of globalisation with a clear vision of the university's present and future roles in a fast-changing world (UDSM, 2007b). It was regarded as guidance for curricular and governance reforms so as to build a new University identity and promote the quality of the university's prime outputs. The university, in addition, formulated a corporate strategic plan (1994-2013), aimed at ensuring that units turn into institutions providing quality education commensurate with the pressing challenges of globalisation and re-affirming the university's commitment to achieve the highest level of excellence.

Measures taken also included performing mandatory curriculum reviews in each of the university units and modularising all courses on offer. Likewise, the university introduced entrepreneurship courses in undergraduate programmes in an attempt to promote flexibility and relevance and make students job-creators rather than job-seekers. It also encouraged all academic units to offer courses in computer literacy so as to foster generic skills (UDSM, 2007a, p. 11). The discourse with regard to producing job-creators rather than job-seekers seems to

⁸ The ITP is the University of Dar-es-Salaam's long-term programme, initiated in 1994, to facilitate the university to operate and fulfil its missions in a changing world intended to review its operations with a view to improving relevance and acting with effectiveness (UDSM, 2007a).

have been particularly relevant to Tanzania because the job market for graduates had recently been highly saturated due to factors such as the downsizing imposed by IMF policies (Cooksey *et al.*, 2003). In this context, the generation of job-creators rather than job-seekers seemed to be a relevant approach for universities in Tanzania to prevent problems such as a brain drain.

Further reforms made included carrying out academic audits every five years since 1998 and performing tracer studies through the collection of alumni opinions and evaluative comments to maintain quality and relevance in relation to the labour market. As stated earlier, the reforms introduced underscored the university's aspiration to promote lifelong learning and create an environment that would 'enable the University to overcome its past weaknesses so as to meet the challenges of the twenty-first century' (UDSM, 2005, p. 49). As Chapter 4 suggests, the University intends to promote lifelong learning values, as can be seen in the university's mission statement aiming at: -

'being able to achieve the highest level of academic excellence in all its programmes and units by providing quality tertiary education that is commensurate with the pressing challenges of globalisation at national, regional and international levels' (UDSM, 2007b, p. 2).

'acting as a catalyst for improved life-long learning processes and creating a sense of entrepreneurship and public responsibility among graduates and to promote respect for learning and pursuit of truth' (UDSM, 2007b, p. 3).

Conceivably, the above quotations suggest the university's intention to create a teaching and learning environment that allows the graduates' acquisition of lifelong learning and related attributes such as entrepreneurial skills and self-directed learning. The university, for example, states further that it aims to 'provide students with social, cultural and recreational opportunities that would facilitate the students' full realisation of potentials for lifelong learning and personal growth'⁹ .

⁹ Stated as one of the UDSM's values (see, <http://dpf.udsm.ac.tz/vision.php>)

1.3 The problem

Despite numerous measures having been taken and transformations made since 1994 in an attempt to produce graduates with a high-level of knowledge and lifelong learning traits, several sentiments and concerns nevertheless seem to exist with regard to the quality of outputs from the university (Kaijage, 2001; Mwapachu, 2005; UDSM, 2005). A recent university external academic audit report, for example, disclosed that, notwithstanding the reforms introduced by the university, undesirable practices such as the dominant use of the lecture method as the most preferred method of teaching existed among faculty members (UDSM, 2005). Undesirable practices also include the perpetuation of the treatment of students as mere recipients of knowledge rather than treating them as mutual creators of knowledge as advocated in the literature (Candy, 2000; Knapper & Cropley, 2000).

Further weaknesses observed also included several occasions of not giving students the opportunity to participate fully in a teaching and learning process through asking questions and making comments, and the persistence of an unfriendly atmosphere and lecturers' negative attitudes toward students during lecture sessions in some academic units. Examples of the reported unfriendly atmosphere include incidents of student intimidation during lectures with expressions such as '*...many of you will not pass the examination!*' or '*...many of you will not survive up to the end of this academic year!*' (UDSM, 2005, p. 10). Concerns also included discontent with the teaching and learning environment with fewer student opportunities to participate in learning through questioning or making comments and clarifying issues (UDSM, 2005, p. 10).

Despite these concerns, there nevertheless seems to have been up until now a dearth of empirical studies conducted to examine the patterns of students' learning experiences in the Tanzanian context. Consequently, several issues remain unknown regarding students' development of lifelong learning capacities. Some of the unanswered questions include understanding whether or not universities in Tanzania really develop lifelong learning capacities in students. If yes, how and to what extent do they develop such capacities? Or, if they do not develop such capacities, why not? What individual and contextual variables might best explain the students' lifelong learning attributes at tertiary level? As

a study by Boshier (1998) suggests, notwithstanding the appealing nature of the lifelong learning discourse to which many institutions aspire, many of the LLL measures seem to be uncritically made. The present study was designed to contribute to the debate by examining the development of LLL in the context of Tanzanian higher education institutions.

1.4 Research questions

The purpose of the study was to examine the institutional and individual practices, processes and experiences influencing the undergraduate students' capacity to become engaged and to persist as lifelong learners.

Specifically, the study intended to address the following questions: -

1. How and to what extent do the national and institutional policy contexts in Tanzania shape and influence the students' development of lifelong learning skills in higher education institutions?
2. Is there a relationship between students' progression in higher education and the increase, decrease or stability in students' mean scores in lifelong learning variables such as 'processing strategies', 'regulation strategies', 'personal agency', 'information skills' and 'entrepreneurial skills'? If yes, to what extent? Or else if not, why is this so?
3. Are there any significant differences in the pattern of development of lifelong learning capacities among undergraduate students in Tanzania in terms of contextual or personal variables such as socio-economic status, age, academic disciplines, or other related predictors?

1.5 Justification of the research

Understanding the patterns of undergraduate students' development of lifelong learning attributes in Tanzania seemed to be an extremely important theme due to a variety of reasons. Firstly, as stated earlier, there seems to have been an increased recognition of the value of lifelong learning in recent decades as reflected in scholarly papers, debates, policy agenda and discourses both locally

and internationally (see for example, Candy *et al.*, 1994; Chapman & Aspin, 1997; Instance *et al.*, 2002; Morgan-Klein & Osborne, 2007; Nyerere, 1973; Osborne & Thomas, 2003; Papadopoulos, 2002; UDSM, 2010). The World Bank report (2003), for example, observed that the interest in cultivating in students a culture of lifelong learning that transcends a conventional education and training has been widening and keeps growing, being now considered a necessity. Tanzania, just as other countries, needs to effectively connect to the global curiosity for developing students as lifelong learners.

Secondly, as elucidated in Chapter 2, universities and related tertiary education systems, as agents for inducing a culture of lifelong learning, have been repeatedly acknowledged to be critical agents for developing participants' LLL skills (Casper, 2002; Chapman & Aspin, 1997; Duke, 2002). The ability for higher education to transform and develop students as lifelong learners seems to be an ever-increasing phenomenon across the world (Chapman & Aspin, 1997). Such concern for change in fact seems to be more overwhelming in developing countries such as Tanzania, where, as many as these countries seek to cultivate a culture of lifelong learning, they also have to grapple with the need to cope with socio-economic problems and challenges. The challenges faced in these countries, for example, include multiple historical problems and emerging socio-economic challenges such as ailing economies, inadequate access, a compromise between quality and quantity, poor quality of education and the dominance of exam-driven educational systems (Teffara & Altbach, 2004). Despite these challenges, however, developing lifelong learners remains one of the mandatory goals these countries have to achieve. As the World Bank (2003, p. xviii) puts it, developing countries like Tanzania could be at risk of being further marginalised in the increasingly competitive global economy, if their educational and training systems do not equip students with the requisite skills needed in the knowledge economy.

Finally, the present study also seemed important due to the need to contribute to current debates associated with understanding the extent to which students are assisted to develop as learners in a Tanzanian context. Theorists in lifelong learning such as Chapman and Aspin (1997) and Field (2006) suggest that the pre-occupation of the modern universities should not only be on students'

achievements but more importantly should be on equipping learners with a repertoire of learning skills important for life beyond school (Chapman and Aspin (1997, p. ix). As stated earlier, there seems to be a dearth of studies aimed at understanding the extent to which universities in Tanzania are moving towards developing students as lifelong learners. As previously stated, there are only a few known empirical studies that have been conducted in areas related to lifelong learning in the African context. It therefore seemed to be a necessity to carry out a study of this nature so as to illuminate the extent to which students could be assisted to become lifelong learners. Conducting a study of this nature could provide some illumination of the nature of the obstacles and the prospects for developing students as learners and how such obstacles might be addressed and overcome.

This thesis therefore makes two key contributions. Firstly, it contextualises the study on students' development of LLL skills in higher education institutions within the Tanzanian setting. It does so by tracing the impact of the university's multi-level processes and structures on students' learning, which is one of the major preoccupations of most educational systems. Secondly the thesis makes a contribution to both educational practice and theory in Tanzania, not only in the field of higher education but also in interrelated fields such as adult learning and educational planning.

To the best of my knowledge, the present enquiry is the first study to be conducted at doctoral level in the area of the development of undergraduate students' propensity for lifelong learning in the African context. There is therefore a clear dearth of studies at doctoral level in this particular area. The few studies that are available such as Hebestreit (2006), Motshekga-Sebolai (2003) and Volbrecht (2002) are in the context of South Africa and do not seem to give adequate treatment to the multifaceted and complex subject of lifelong learning. Additionally, the focus in these studies appears to be quite different, thus making it difficult to make generalisations about their results relevant to other parts of Africa like Tanzania. For example, while the focus for most of these studies was predominantly on institutional policy influencing lifelong learning and adult continuing education, a point of departure for this thesis was its focus on the examination of both the policies and young adults' learning

practices and academics' teaching practices, using a longitudinal mixed methods research design.

In its totality by explicating the extent to which the individual and institutional factors influence students' lifelong learning attributes, this thesis makes a scholarly contribution to understanding factors influencing the university's role in cultivating a culture of lifelong learning among their graduates.

1.6 Origin of the study

My interest in studying undergraduate students' development of lifelong learning attributes largely sprang from my own background in the fields of adult education, teaching and higher education. The study partly grew out of my professional background as a member of faculty in one of the Universities in Tanzania and my career interest in adult and continuing education. My motive to study this topic also emerged from my recognition of the necessity for having a critical eye on the purpose of education in general and higher education in particular, specifically within the context of developing countries such as Tanzania. In the face of the unprecedented swift socio-economic transformations occurring across the globe, there are many emerging global issues that require developing countries like Tanzania to re-think the robustness of their educational systems.

From my personal reflections as a former undergraduate student, and later on as a University lecturer in Tanzania, I came to realise that whereas many universities claim to promote several desirable values such as lifelong learning and self-directed learning, the actual implementation of such goals have sometimes been disappointing or remains at the level of rhetoric. My argument in this thesis is that the focus of educational provision in Tanzania should not be based on the traditional front-loaded educational system. The focus should rather be based on promoting vibrant lifelong learning social skills among students.

1.7 The structure of the thesis

As stated earlier, globally there is a huge interest for universities to develop graduate capacities and equip students with learning-to-learn skills and other graduate attributes synonymous with lifelong learning. This thesis sets out to examine the complex inter-relationship between higher learning institutions and the students' development of lifelong learning attributes. The study, is therefore, based on the invigorated calls for universities and other post-secondary institutions to be transformed into institutions for promoting lifelong learning. This thesis is divided into eight generally intersecting chapters. Although each segment is presented as a stand-alone portion, the chapters are structured in such a way that they ensure coherence in the main argument.

The *first chapter*, including also this segment, encompasses aspects related to study groundwork aimed at defining the context of students' development of lifelong learning attributes. It provides the background to the study and the context for the later empirical chapters.

Chapter 2 expounds the conceptual and theoretical issues and frameworks related to this study. The chapter also explicates issues, main ideas, concepts, theories, debates and trends underlying lifelong learning and higher education. The Chapter is set out to provide the conceptual and theoretical frameworks for thinking, analysing, organising and understanding university teaching, learning experiences and contexts influencing students' development as lifelong learners.

Chapter 3 elucidates the research methodology followed in the present study. The chapter first highlights the purpose of the study and the major research questions. It then discusses the research design and the research approach adopted in the study and the rationale for choosing a particular approach. The chapter also delineates the methods for data collection and the construction of the tools as well as the sample and sampling procedures followed. Lastly, it discusses issues with regard to ethical considerations and data analysis.

Chapter 4 is the first empirical chapter aimed at appraising the extent to which national and institutional policies in Tanzania have influenced lifelong learning and higher education. It seeks to establish the policy-related contextual issues

linked with the development of the students' propensity for lifelong learning. The chapter is particularly aimed at achieving a three-fold purpose. Firstly, it considers the policy conceptual issues and the model to be used in the analysis. Secondly, it reviews and analyses the educational policies and major trends at national level and the influence of these policies on lifelong and higher education. Thirdly and lastly, the chapter examines the higher education and lifelong learning policy issues at an institutional level, thereby assessing the existing discrepancies, consistencies and contradictions.

Chapter 5 reports the results emerging from the qualitative and quantitative analyses from longitudinal data on the stability and variations in students' scores on 'processing strategies', 'regulation strategies', 'personal agency', 'information skills' and 'entrepreneurial skills' between phase 1 and phase 2. The examination of stability and variations of lifelong learning skills is based on the existing theoretical evidence in the literature discussed in Chapter 2, suggesting that as they progress in higher education students might develop a repertoire of skills leading to lifelong learning.

Chapter 6 addresses the research question concerning the personal and contextual factors influencing students' development of lifelong learning attributes. Whereas both Chapter 5 and Chapter 6 consider the same independent variables, unlike Chapter 5, Chapter 6 largely uses the cross-sectional data to estimate the effects of personal and contextual variables on learning. The major purpose of the cross-sectional study in this chapter was to find out whether or not there might be differences in students' scores on different ILS and ISS scores due to personal factors such as age, or due to other contextual variables such as the academic discipline. This is based on theoretical assumptions suggested in the literature.

Chapter 7 concerns the discussion of the key findings of this study. The overall aim of the chapter is to address the research questions of the study. In the first section of this chapter the findings in relation to the extent to which education policies in Tanzania influence the students' lifelong learning are discussed. The next section discusses the major findings in relation to the variability and consistency of the students' scores on different dependent variables. The final

segment discusses the findings about the contextual variables influencing student development of lifelong learning attributes.

The *eighth chapter* of this thesis, which brings the study to an end, encompasses the conclusion, the major findings of the study, the contribution of the study, its limitations, its recommendations for policy and suggestions for future researchers. Altogether these chapters explain issues and give a comprehensive description of the current situation relating to students' development of lifelong learning attributes in Tanzania.

The additional final segment of this thesis includes appendices, which provide further selected information aimed at illustrating details and giving specific information concerning selected issues in the main text. The individual chapters make reference to each of the appendices attached.

Chapter 2

Review of related literature

2 Introduction

The literature review in this chapter establishes a discussion on the main concepts, theories, trends and issues underlying lifelong learning and higher education. The process of the literature review started with a comprehensive, systematic exploration of journal articles and books on subjects such as learning, approaches to learning, higher education, lifelong learning and research methodology (for example, Brennan *et al.*, 2010; Candy *et al.*, 1994; Houston & Rimmer, 2005; Instance *et al.*, 2002; Knapper & Cropley, 2000; McCune, 2000; Morgan-Klein & Osborne, 2007). The ideas and references from the initial readings were used to identify further readings. The aim of the literature review was to become aware of the major trends, concepts and key approaches associated with researching lifelong learning and higher education and to appraise some previous empirical studies related to this study. From the extensive literature review that was done, it was confirmed that there had been no prior study conducted at doctoral level examining undergraduate students' development of lifelong learning attributes in Tanzania.

2.1 The concept of learning

Notwithstanding being one of the oldest concepts embedded in the existence of human beings and one of the realities experienced virtually by each of us, learning remains one of the complex concepts that does not lend itself to easy analysis and understanding (Bjerkaker & Summers, 2006). Despite efforts by prominent theorists to define the concept over the years (for example, Entwistle & Ramsden, 1983; Illeris, 2003, 2007; 1984; Marton & Säljö, 1976a), realising a comprehensive definition of learning has remained one of the most elusive goals. Renowned researchers such as Saljo (1987) acknowledge the complexities in defining learning since 'the meaning of the concept is highly susceptible to any analytical satisfactory definition and the concept has remained defiantly opaque across a variety of situations' (p. 104). The intricacy required in defining the term is also admitted by Candy (1991), who argues that 'despite thousands or

probably millions of words that have been expended on the subject of self-directed learning, very few authors ever made explicit what they meant by the term learning' (1991, p. 49). Nevertheless, the complications involved in defining the term and understanding the way learning is defined and studied, constitutes one of the inescapable concerns of any serious research. This is because many of the practices, instructional choices and educational decisions made are largely based on assumptions about how the concept of learning is perceived and understood (Fosnot & Perry, 2005).

Traditionally, learning has been defined as 'a relatively permanent change that occurs in behavioural potential as a result of experience' (Jarvis, 2005, p. 2). Even though the traditional definition above appears to be plausible since it mentions important processes implied in such a change in human behaviour, this view has been challenged because defining learning in such a naive way tends to result in more uncertainties than rejoinders. Some of the issues overlooked in this definition include addressing issues as to whether learning activities take place within individuals or occur as a result of human interaction. The definition also does not clarify the central processes associated with learning and whether or not learning is more of a cognitive processes, more of an emotional process or more of a social and motivational experience (Jarvis, 2005, p. 3).

However, as Ireson (2008) observes, despite the inadequacy of the traditional view of learning, the majority of the common usages and conceptions of learning in school and educational settings seem to be restricted to a narrow traditional view. The traditional view of learning is based on a prescribed curriculum and on the learner's ability to reproduce correctly what has been taught. The weak point in this view of learning is mainly about the major emphasis placed on formal learning while overlooking the importance of rich knowledge acquired from other modes of learning such as students' informal interactions.

Learning can also be considered to be a result of the transformation of human experiences and personal reflections (Kolb, 1984, 1985), in which it is regarded as a cyclical process constituting four stages, namely, experience, reflection, generalisation, and application. Moreover, regarded in this way, learning is considered to encompass different stages associated with students' distinct learning styles, namely, as divergers, assimilators, convergers and

accommodators (Healey & Jenkins, 2000). There are many studies that have been influenced by Kolb's ideas (for example, Healey & Jenkins, 2000; Holman & Pavlica, 1997; Kolb *et al.*, 1986; Rashick *et al.*, 1998).

Additionally, learning can also be viewed from a developmental perspective, in which it is considered in terms of the transformation processes occurring as individual advances in an educational system. The conception of learning in this perspective is based on developmental studies conducted by scholars such as Perry (1970) and Sanford (1969). As Moore (2002, p. 26) suggests, contrary to the traditional view of learning, scholars within the developmental perspective consider learning to involve:-

- the organisation of increasing complexity and therefore different from the traditional notions of 'change' and 'growth'
- the whole individual in development - intellect, emotion and actions, which are viewed as all inseparable
- a progressive nature in which there is an order to the developmental changes that take place
- reflections of interactions between a person and an environment

It appears from the above discussion that defining learning is not a straightforward matter, and a number of standpoints need to be taken into account when defining the term, including, biological, sociological, cultural and psychological (Illeris, 2007).

2.2 The concept of lifelong learning

Being an all-embracing concept, adaptable to many sectors, lifelong learning and the related concept of lifelong education are complex to conceptualise. Attempts to delineate the concept include studies and scholarly papers by notable authors (for example, Aspin & Chapman, 2000; Casper, 2002; Instance *et al.*, 2002; Longworth & Davies, 1996; Osborne & Morgan-Klein, 2007; Schuetze & Casey, 2006; Tuijnman & Boström, 2002). As noted by Doukas (2010), the intricacy in conceptualising lifelong learning is partly due to the nature of the concept, since it embraces mixed dimensions including educational, social, economic and cultural. This view is also maintained by Field (2006, p. 2), who regards the difficulty in conceptualising lifelong learning to originate from its nature as a 'loose and all-encompassing concept focusing on something that we

all do sometimes unconsciously'. Longworth & Davies (1996) note that in some countries lifelong learning is confused with related terms such as continuing education, which implies education for adults. Likewise, Candy *et al.* (1994) note that for some people lifelong learning has been erroneously assumed to be synonymous with non-formal adult education without any relationship to higher education.

Despite the debates about conceptualising lifelong learning, it is important to note that one of the commonest approaches to defining the term has been by classifying it into three broad categories, namely, *formal, non-formal and informal* (Coombs & Ahmed, 1974; La Belle, 1981; Tuijnman & Boström, 2002). Within this perspective, lifelong learning can also be construed by looking at it from the '*life-deep*' and '*life-wide*' perspectives. Whereas the '*life-wide*' dimension suggests lifelong learning's complementary capacity to offer *formal, non-formal and informal* means of learning, the '*life-deep*' dimension implies the depth of learning and the lifelong need to focus on complex learning (Maclachlan & Osborne, 2009, p. 575). However, as Maclachlan & Osborne (2009) observe, the use of and concern for the *life-deep* dimension has been less common and less emphasised in many of the definitions in journal articles and discourses. According to them, many of the current efforts and concerns seem to focus more on perceiving lifelong learning from the perspective of '*where*' and '*when*' learning occurs in our life (see also, Longworth, 2003). However, one of the drawbacks with this approach of conceptualising lifelong learning is the danger that some of the core aspects defining lifelong learning might be overlooked so much so that the complex phenomenon of lifelong learning might be defined in a superficial and naive manner.

Further conceptions and characteristic features of lifelong learning have also been proposed by Leong (2008, p. 543), who, on the basis of Huang (1995), suggested the features of LLL should include: -

- Openness: that is, available for all;
- Continuity: that is, emphasising linkages between various educational activities;
- Integration: that is, includes all education activities in the life-span;

- Flexibility: in objectives, methodologies, time, place, content and processes;
- Appropriateness: of the content being related to the learner's life and/or work

A comparatively comprehensive treatment of the concept is given by Cropley (1980, pp. 3-4), who suggests that for education to lead into lifelong learning it should:

last the whole life of each individual; lead to the systematic acquisition, renewal, upgrading and completion of knowledge, skills and attitudes; be dependent on its successful implementation on people's increasing ability and motivation to engage in self-directed learning activities; acknowledge the contribution of all available educational influences, including formal, non-formal and informal (see also, Tight, 1998).

Recent attempts to conceptualise lifelong learning in a relatively comprehensive manner have also included works by Longworth & Davies (1996, p. 22), defining lifelong learning as: -

'...the development of human potentials through a continuous supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply with confidence, creativity and enjoyment in all roles, circumstances and environment'

Longworth & Davies (1996) in particular stress the consideration of lifelong learning as a 'complete range of human experience', viewing it in a sense of a 'human potential development model', not as an 'education and training model for the present'. The Longworth & Davies (1996)'s definition above seems to be robust since it covers many aspects implied in lifelong learning and suggests the pervasiveness of the concept.

However, as clarified later in this chapter, lifelong learning as a complex concept is also associated with other different concepts such as 'self-directed learning, open and distance learning, learning regions, learning society, and learning communities, which all signify the imperatives for continued learning resulting from the prerogatives of a fast-changing world' (Preece, 2011, p. 103).

2.2.1 Philosophical roots of lifelong learning

Since the major goal in the present study is to gain a comprehensive understanding of current issues related to the implications of LLL on higher education, it seemed crucial to have a glimpse of the historical and philosophical roots of lifelong learning. However, although quite a significant number of philosophers have developed ideas on the nature and approaches to education, relatively few of them have focused on the interplay between higher education and lifelong learning (Altbach, 1979).

As suggested earlier in Chapter 1, lifelong learning has long been a concern in educational reforms and change for many years. The concept was articulated to reflect a departure from ‘front-end’ education, in which education had traditionally been confined to childhood and adolescence, as opposed to education which is available throughout life and in which an individual could be flexibly involved in the learning process (Instance *et al.*, 2002; Tight, 1998). As a concept, lifelong education¹⁰ has been in existence for more than eight decades as it was first stated in the works of Basil Yeaxlee¹¹ in early 1929. Early works on lifelong education also include the writings of John Dewey (1859-1952) and Eduard Lindeman (1885-1953) (Tight, 1998). Despite being in existence for such a long time, however, it was not until the late 1960’s that the concept started gaining popularity in the ‘educational lexicon’ and this was mainly through the publications of different international agencies, principally the EC, UNESCO and the OECD (Candy, 1991, p. 14). In the late 1960’s lifelong education policy discourses were most significantly systematised through the Organisation for European Commission Development (OECD) initiatives.

¹⁰ *Lifelong learning* is traditionally referred to as ‘lifelong education’. It differs from ‘lifelong education’ in that it denotes a shift of attention away from the focus on the providers and educational institutions (‘teaching or education’) towards a focus on the ways in which individuals and communities can acquire new skills and knowledge (‘learning’). Lifelong learning also implies a kind of learning throughout all phases of the lifespan and is not solely confined to educational opportunities available during the adult life (see, Field, 2003; OECD, 1973 for detailed distinctions).

¹¹ American adult educator (1863–1967) considered to have written the first book on lifelong education: *Lifelong education: A sketch of the range and significance of the adult education movement*.

Early formulations of lifelong education were mainly associated with such concepts as re-current education¹² and *education permanente*¹³ which might be viewed as the early policies designed to replace the dominant ‘front-end’ nature of education based on schooling that put more emphasis on childhood and adolescence (Instance *et al.*, 2002; Tight, 1998). Contrasting the re-current education with *education permanente*, Candy *et al.* (1994) indicated that *education permanente* was more concerned with ‘those forms of learning throughout life that called for social and cultural change’ whereas the recurrent education ‘was more overtly concerned with continuing learning that had its basis in economic and technological change’ (p. 17).

From the mid-1990’s, the lifelong learning discourse and policy emphasis re-emerged in educational discourses with a major shift in emphasis from the institutional provision into a learner (Preece, 2011). The re-emergence of lifelong learning discourse in the 1990’s also came with clearer concerns for governments, educational institutions and work places to embrace this policy. Field (2006) noted that, in the community of Europe, the re-appearance of the LLL discourses in the 1990’s was particularly linked with the formulation of policy documents such as CEC (1995) Teaching and learning toward lifelong learning, the OECD’s Lifelong learning for all 1996 and the ‘Learning: the treasure within Delor’s report, (UNESCO, 1996). By contrast, as indicated later in this chapter, scholars such as Preece (2009b) and Torres (2002) have argued that the lifelong learning discourse in the context of African countries has been primarily overshadowed by the Education for All (EFA) agenda.

¹² *Re-current education* originated in Sweden in the 1960’s and was later adopted by the OECD and was defined as ‘a comprehensive education strategy for all post-compulsory or post-basic education’. Its essential characteristic was the distribution of education over the total life-span of the individual in a recurring way, that is, in alternation with other activities, principally with work, but also with leisure and retirement (OECD, p.16; see also Candy, 1991).

¹³ *Education Permanente* is widely associated with the Council of Europe, referring to educational policies based on the socio-cultural principles of participation, equalisation and globalisation (Kallen, 1979, p. 53). The main focus of education permanente was on the interaction between education and society, especially in the area of small autonomous community education where what is taught and how it is taught are determined by group decision-making (participation). Equal opportunity in education is a basic premise of education permanente, achievable both inside and outside the education system (equalisation) (OECD, 1973, p. 7).

2.2.2 Lifelong learning models

As stated earlier, the consideration of education as a ‘*lifelong*’ and ‘*life-wide*’ process has led to the development of various approaches aimed at achieving learning using different pathways. Hence, several lifelong learning models have evolved over time in an attempt to tackle different social economic problems (Aspin *et al.*, 2001; Maclachlan & Osborne, 2009). The competing and contrasting models and perspectives emerged partly due to the complexity in conceptualising lifelong learning and partly as a result of evolving global socio-economic challenges. The fact that lifelong learning is a new philosophy of education and training necessitated the need for alternative models of learning and knowledge and thus the emergence of different perspectives of lifelong learning. As Aspin *et al.* (2001) put it, different models and lifelong learning labels with diverse cultural contexts, thinkers and traditions have evolved ever since the existence of the lifelong learning discourse. Previous studies analysing the different lifelong learning models and visions include Aspin *et al.* (2001), Bagnall (2001) and McIntosh (2005). While some of these scholars view lifelong learning as an outcome, others consider it in terms of the processes involved in acquiring knowledge, skills and attitudes.

In a framework offered by Aspin, *et al.* (2001), for example, lifelong learning is considered in terms of its outcomes and comprises three major elements, namely, *lifelong learning for a more highly skilled workforce*, *lifelong learning for personal development leading to a more rewarding life*, and *lifelong learning for the creation of a stronger and more inclusive society*. Aspin *et al.* (2001) also further categorised lifelong learning policies into four major models, namely, (1) *the compensatory educational model*: that is, lifelong learning policies aimed at filling the educational gaps for those with lack of access to initial education, and for improvements of both the basic skills and vocational skills; (2) *continuing vocational training*: aimed at dual goals for both enabling the individual to make adjustments for changes occurring in the workplace, and solving the unemployment-related problems; (3) *social innovation or civil society model*: focusing on addressing social estrangement and the promotion of socio-economic transition and democratisation, and (4) *the leisure oriented model*: focusing on the enhancement and enrichment of individuals and personal fulfilment, (p. xii).

With a somewhat different perspective, McIntosh (2005, p. 31) suggests six different models of lifelong learning, namely, (1) *the functionality model*: based on human capital development and equipping citizens with the requisite vocational skills (for example, Dehmel, 2005); (2) *the critical literal model*: mainly associated with the works of Paulo Freire's (1970), in which learners are encouraged to develop a questioning attitude towards assumptions and concepts; (3) *the social justice model*: this is similar to the emancipatory kind of lifelong learning for liberating minorities and the marginalised in society. It is concerned with helping citizens to become informed and effective participants in a democratic society (see also, Avis, 2007; Hudson, 2008; Osborne, 2003); (4) *the reflective learning model*: which may be characterised by the phrase 'learning how to think'; (5) *The compensatory model* with the primary aim of institutions being able to offer remedial knowledge and skills, and (6) *the humanistic model*: which is concerned with broadening horizons and developing their minds.

Meanwhile, Bagnall (2001, p. 36) considers lifelong learning models on the basis of the three major 'sentiments' addressed in lifelong learning, namely, (1) *liberating the individual* (2) *the demographic progressive*, and (3) *the adaptive*. The *individual progressive sentiments* model focuses on individual growth and development, with a major pre-occupation of liberating the individual from ties such as ignorance, dependence, individual enlightenment, empowerment and transformation. According to Bagnall, theorists working within the framework of this model include Brockett and Hiemstra (1991) and Longworth and Davies (1996). The *demographic progressive sentiment* is based on achieving social justice, equity and social development. A critical feature of this model is the realistic commitment to achieve emancipation from historic oppression and effect a cultural transformation using education as an instrument. According to Bagnall, this model has been influenced by educationists such as Freire (1973), Illich (1971) and Gelpi (1985). In his thesis, Illich (1971) for example, advocated the questioning of the notion of compulsory schooling to ensure a connection between the development of education and the requirements of the society. Lastly, the *adaptive model* is basically concerned with the question of cultural change in various avenues such as in the workplace or cultural change at an individual level. In this model individuals are equipped with abilities to become

functional and productive members of society. Scholars influenced by this model include Knapper & Cropley (1985). Table 2.1 summarises the different lifelong learning models and the key concepts emphasised.

Table 2.1 Key focus in each of the lifelong learning models

Author	Aspin et al. (2001; Bagnall (2001) 1997)	McIntosh (2005)	
<i>Basis</i>	<i>outcome</i>	<i>sentiment</i>	<i>equity & social cohesion</i>
<i>Model</i>	<ul style="list-style-type: none"> • compensatory education • continuing vocational training • social innovation or civil society • leisure-oriented 	<ul style="list-style-type: none"> • liberating the individual • demographic progressive • adaptive 	<ul style="list-style-type: none"> • functionality • critical literal • social Justice • reflective learning • compensatory • Humanistic

Notwithstanding the existence of different lifelong learning models, however, it seems that the adoption of one model of lifelong learning rather than another largely depends on the context. In the context of developed countries, for example, lifelong learning as a means for the maximisation of economics has been one of the most dominant models (Kallen, 1996, 2002). This economist's view of lifelong learning, however, has been somehow challenged in the literature due to its tendency to reduce learning to a tool for a neo-liberal economy to provide a qualified and flexible workforce and transferable skills within and beyond the national and regional contexts (Kallen, 2002, p. 137). As illustrated later in this chapter, the lifelong learning models and perspectives emanating from traditional societies include the philosophy of Ubuntu¹⁴ in Africa and the philosophy of Confucius¹⁵ in China. As Chapter 4 suggests, even though the adaptive and compensatory models seem to be more noticeable in the context of Tanzania (see, Preece, 2009b), other models of lifelong learning such as the humanistic, have also started to emerge in educational policy discourse in

¹⁴ Ubuntu may be conceived as a philosophical view emphasising 'humanity'. It is a Zulu word referring to as 'a person through other persons'. It is also used in other Southern African languages. Equivalent East African words include omundu/muntu/mtu (Swahili)/umundu (nyakyusa). The translation of Ubuntu into other languages, however, tends to lose some cultural specific meaning (Nafukho, 2006, p.409).

¹⁵ A generic term representing a world view, a scholarly tradition and a way of life in East Asian countries. It literally means a family of scholars, signifying a genealogy, a school or a tradition of learning (Tu 1998).

recent years, particularly after the country's adoption of globalisation policies. Irrespective of the debates on lifelong learning models, it appears that the lifelong learning discourse needs to be considered in the light of different contexts. A common theme emerging from the above discourses on lifelong learning models also seems to raise the broad issue regarding the necessity of achieving learning through all forms possible and throughout life (Longworth, 2003; Maclachlan & Osborne, 2009).

2.2.3 The maximalist and minimalist perspectives of lifelong learning

As noted earlier, given the complexities associated with the discourse of lifelong learning, different views and perspectives on lifelong learning have been produced (Bélanger, 1994; Schuetze & Casey, 2006; Tuijnman & Boström, 2002). Among the widely debated views there are, for example, the *maximalist* and *minimalist* views of lifelong learning (Wain, 1985, 1987, 1993). According to Wain, the minimalist perspective of lifelong education is exclusively concerned with *adult education* and its relation with lifelong education. In this perspective, the role of lifelong learning is regarded to be that of filling existing professional and academic gaps. Typical examples of programmes within the minimalist perspective include continuing education and recurrent education as well as adult literacy programmes. By contrast, the maximalist view of LLL is principally concerned with the promotion of 'a learning society'. Theorists within this perspective go beyond a simple expression of adult and continuing education or its improvement. They instead focus on lifelong learning as an agent for reforming society itself, its educational philosophy, structures and policies (Wain, 1993, p. 93).

The foregoing analysis suggests that there have been rigorous debates and tensions about the competing agendas of LLL for economic growth and of LLL for social justice and equity. Arguments from the global south suggest that LLL should be context-based, formulated on the basis of indigenous knowledge, and benefit the community as a whole. However, as argued by Walters (1999, p. 579), in the context of African countries such as Tanzania the 'social justice discourse of LLL cannot be achieved without economic development, and economic development amongst the majority of people cannot be achieved

without striving for social justice'. It seems important therefore to consider the lifelong learning vision beyond the agenda divides. The agenda should surpass the traditional lifelong learning discourse divides by focusing on the integrative approach. Thus, lifelong learning discourse in the Tanzanian context should strike a balance on the interrelatedness between economic and social development, as well as between benefits for individuals and benefits for society at large.

2.3 Lifelong learning in the African context

In Africa lifelong learning has traditionally been based on principles such as 'communalism' and 'ubuntu', which are principally based on values such as community, social, cultural and political development rather than personal and economic development values (Bangura, 2006; Mbigi, 1997; Preece, 2006). As a concept which is based on African philosophy and a way of life, 'ubuntu' is particularly associated with the adult learning and lifelong learning theory and practice in Africa (Avoseh, 2001; Bangura, 2006; Nafukho, 2006). Bangura (2006, p. 13), for instance, defines 'ubuntugogy' as an 'art and science of teaching and learning undergirded by humanity towards others'. In South Africa, for example, 'ubuntu' is practised as an officially recognised philosophy and a guiding principle for achieving equity and social welfare and is defined as:

'the principle of caring for each other's well-being, and a spirit of mutual support, each individual's humanity is ideally expressed through his or her relationship with others, it also acknowledges both the rights and the responsibilities of every citizen in promoting individual and societal well-being' (RSA, 1997, p. No Page)¹⁶

The implication of 'ubuntu' philosophy in lifelong learning discourse focuses on the social justice model of lifelong learning as opposed to focusing on the individualistic model (Bagnall, 2001; Preece, 2006). As Chapter 4 suggests, a comparable African philosophy, namely 'Ujamaa'¹⁷, was adopted in Tanzania as a

¹⁶ <http://www.info.gov.za/view/DownloadFileAction?id=127937>

¹⁷ A political philosophy and a strategy denoting African socialism adopted in Tanzania since 1967. In Swahili the term may be referred to as family hood or communal sharing of resources (Nyerere, 1968).

strategy to help people appreciate communal life and engage in learning about such aspects as agriculture, self-reliance, better skills of production and better food and health so as to combat the country's common enemies, namely, poverty, ignorance and disease (Mushi, 2009; Nyerere, 1968).

2.3.1 Traditional lifelong learning in Africa

The majority of authors focusing on Africa (for example, Avoseh, 2001; Maratuona, 2006; Nyerere, 1968; Omolewa, 2009) indicate that in traditional African society education was lifelong in nature and was deeply embedded within African culture and epistemology. As suggested in these studies, it was clearly recognised in early traditional Africa that, even though education was organised in an informal sense, community learning started from childhood and continued through adolescence and into old age (Mushi, 2009; Omolewa, 2009). The age-graded apprenticeship system and the community learning practice were carefully embedded into the political, economic, spiritual and physical life of people (Omolewa, 2009). This kind of lifelong learning was practised via oral methods such as legends, epics, tales, historical poems, proverbs, songs and plays, ceremonies, rituals and festivals (Avoseh, 2001; Maratuona, 2006). Examples of lifelong learning activities in Uganda and Tanzania include the practice of activities organised for each age and sex group at the inception of puberty to prepare them for adulthood and societal behaviour expectations (Okech, 2004). In Botswana, for example, the practice of community meetings (*the 'kgotla' system*)¹⁸ was used to facilitate local communities to get involved in democratic deliberations.

As suggested by these examples, the education offered during the traditional era was based on a '*life-long*' principle in the sense that it was offered on the basis of experiential lifelong learning. Most of the learning, however, was oral rather than written, though it was purposeful (Maratuona, 2006). It is against this background that lifelong learning in Africa should be viewed as an ageless activity, which has existed in almost all societies in different forms and models and with varied content. It existed as a means for survival and for the

¹⁸ A local meeting assembly, based on leadership through dialogue, commonly used for deliberating or settling matters and issues at a local level (see, Maratuona, 2006).

development of skills, social values and acceptable attitudes as well as a means for building community spirit (Mushi, 2009).

Notwithstanding, the existence of traditional African lifelong learning, several deficiencies can nevertheless be pointed out in this mode of learning. Critics such as Omolewa (2009) indicate that the major limitation of the traditional African lifelong learning system included an over-reliance on informal structures such that it became relatively difficult to regulate, monitor and evaluate. Additionally, given its over-dependence on visual and oral means of literacy, this traditional lifelong learning also suffered from several of the inadequacies inherent in oral communication. Bordia (2002), for example, considers the traditional lifelong system to be problematic in terms of its organisation of learning by arguing that,

‘while Africa is full of old stories from which people could learn important things, one key observation is that the system did not offer opportunities for systematic learning, for the idea of lifelong learning to be realised’ (p. 245).

Preece (2009b), however, contends that, while there is no need to reinstate traditional education, it is important to give due recognition to the cultural historical identities and self-respect that emanate from African cultural history.

2.3.2 Recent developments in lifelong learning in Africa

Despite the debates on African traditional lifelong learning, the two UNESCO commission reports, Faure *et al.* (1972) *‘Learning to be’ (focusing on lifelong education for both developed and developing countries)* and the Delor *et al.*, (1996) *‘Learning: the treasure within’*, remain the key documents representing broad vision statements on lifelong learning for both developed and developing countries. Preece (2009b) maintains that, within the African context, much of the systematic emphasis on lifelong learning originates from the global conferences that have occurred over time and been largely organised by UNESCO. The focus of the majority of these conferences, according to Preece, was on issues related to aspirations concerning lifelong education, adult education or higher education in Africa. According to Preece (2009b), lifelong learning has been a subject of discussions in most of the UNESCO conferences

since the 1970's. Some of the important early global conferences related to LLL include the 1975 UNESCO Nairobi seminar and other conferences organised by UNESCO in Montreal (1960), Tokyo (1972) and Paris (1985), addressing matters such as universal literacy, the genuine spirit of democracy, increasing learning opportunities for all age groups and the promotion of gender equality (Afrik, 2000).

However, as Torres (2004) and Preece (2009b) note, a remarkable increase in the emphasis on lifelong learning in the context of Africa was evident from the 1990s when UNESCO held different conferences giving specific attention to developing nations. Four specific conferences signifying the growing interest in the concept of lifelong learning in the context of Africa included: (1) the 1990 International Literacy Year; (2) The World Conference on Education For All (EFA), (Jomtien, 1990); (3) the fifth International Conference on Adult Education - CONFINTEA V (Hamburg, 2007), and (4) the World Education Forum (Dakar, 2000).

During the Jomtien 1990 EFA conference, national governments made commitments to achieve different targets related to lifelong learning (*ratified in 2000 in Dakar*). Article 1.4 of the Jomtien Declaration placed basic learning needs firmly within a lifelong learning framework arguing that 'basic education is more than an end in itself, but a foundation for lifelong learning and human development' (UNESCO 1990, p.3). The growing interest in lifelong learning can also be noted in the 1997 5th UNESCO conference on Adult Education (CONFINTEA-V), which broadly viewed adult education within the framework of lifelong learning. The declarations from this conference recognised the right to education and the right to learning throughout life more than ever as a necessity (UNESCO, 1997, p. 4). It also encouraged member states to ensure that lifelong learning becomes a more significant reality in the early 21st century (UNESCO, 1997, p. 7).

Further emphasis can also be noted in the statements of the Ministers responsible for the education conferences (MINEDAF) that have been convened by UNESCO since 1998 to examine the member states' educational policies in the context of lifelong learning, where it was re-affirmed that: -

‘we are committed to expand the role of education, which should be a lifelong process, a continuum which transcends the schooling system and which focuses on the building of a learning society, taking full advantage of appropriate technology’ (UNESCO, 1998, p. 4).

Another significant UNESCO conference took place in Mumbai in 1998 to examine the interplay between lifelong learning and higher learning institutions. The conference focused on understanding LLL as a concept with major organisational, pedagogical and political implications. The conference formed one of the first steps in an attempt to transform institutions of higher learning into institutions of lifelong learning, aimed at moving the agenda from rhetoric into action. Also in 1998, the UNESCO World Conference, entitled ‘Higher Education for the Twenty-First Century’, was held in Paris and several references were then made to lifelong learning, asserting that ‘the future of higher education lies in lifelong learning’ (Walters & Watters, 2001, p. 472). Similarly, the October 2000 conference, held in Cape Town, was also aimed at developing tools that could help institutions individually and collectively to embed lifelong learning and foster the transformation of post-secondary institutions into lifelong learning institutions (*Table 2.2*). The tools developed also focused on translating the notion of lifelong learning for active democratic citizenship into practice (Walters & Watters, 2001).

Table 2.2 Characteristic elements of a lifelong learning HEI

Characteristic Elements	Description
1. Overarching framework	An overarching framework provides contexts which facilitate HEI’s to operate as lifelong learning institutions. These are regulatory, financial and cultural/social.
2. Strategic partnership and linkages	This is mainly about forming relationships internationally and forming relationships with other groups in society.
3. Research	That is, a consideration of research in its broadest sense; it includes working across disciplines and/or across institutions. Lifelong learning is regarded as an important and legitimate research area.
4. Teaching and learning processes	Educators encourage self-directed learning; they engage with the knowledge, interests and life situations which learners bring to their education and use open and resource-based approaches.
5. Administrative policies and mechanisms	Service to learners is the top priority of the administration.
6. Student support system and services	Learners are supported in various ways to become independent learners.

Adapted from UNESCO (2000, p. 4)

Table 2.2 depicts a set of elements characterising lifelong learning in higher education institutions (HEI's) as developed by UNESCO (2000). As suggested above, the criteria proposed represent performance indicators that provide quantifiable lifelong learning measures focusing on individual, social and economic development to help institutions concretise lifelong learning and move from rhetorical commitment to action.

However, despite the various efforts to promote lifelong learning in Africa discussed above, considerable challenges and controversies nevertheless seem to curtail the prevailing lifelong learning policies and efforts. Some studies, for example, have indicated that, with the exception of Botswana, Namibia and South Africa, the lifelong learning policy environment in the majority of African countries remains weak and is failing to integrate lifelong learning into the pedagogical and organisational delivery systems (Maratuona, 2006). It is also argued further that, despite the espousal of lifelong learning frameworks in some of the developing countries, scant effort has been made to ensure implementation (Maratuona, 2006; Torres, 2009). Based on Coffield (2000b), Walters (2006, p. 11) suggests that the lifelong adoption process has been going through three overlapping stages, namely, 'romance', 'evidence', and 'implementation', and concludes that most of the lifelong learning materials were mainly at the 'theoretical and romantic' level. As indicated in these studies, progress towards the integration of lifelong learning in most countries in the global south is challenging and seems still to be far from the target. As observed by Torres (2004), a limitation on lifelong policies in the majority of the global south countries includes the continued viewing and interchangeable use of the concept of '*lifelong learning*' with that of '*lifelong education*'. Additionally, contrary to the ideal consideration of the notion of lifelong learning as 'learning from the cradle to the grave', most of the prevailing national and regional lifelong learning schemes seem to be reduced to adult education. On the basis of the limitations observed, Torres (2004, p. 49) recommends a framework for the radical transformation of education systems into lifelong learning institutions in Africa (*Box 2.1*).

Box 2.1 Framework for the radical transformation of education systems into lifelong learning institutions in Africa

- Understanding LLL not as equivalent to adult learning and adult education, but rather considering it as embracing a continuum from early childhood to older age, with ALE forming part of lifelong learning.
- Shifting from the traditional focus on *'teaching and teachers'* to a focus on *'learning and learners'*
- Breaking down the barriers between *'education'* and *'training'* and viewing them in a continuum as in the alteration or simultaneity between *'study'* and *'work'*, both of them being learning opportunities.
- Acknowledging, appreciating and validating learning that takes place in daily life outside the school system or formal channels.
- Addressing learners not as individuals or isolated learners organised by age into children, youth, adults, and the elderly but rather as families and communities and aiming to build *'learning families'*, and *'learning communities'*.
- Re-organising the time and age parameters traditionally associated with education, re-organising and articulating the spaces where learning takes place in daily life, home, community, school system, work, communication media, social participation, arts, sports, recreation, reading and writing etc. i.e. the articulation of formal, informal and non-formal learning.
- Enhancing rather than inhibiting, intergeneration learning in family, the community, the workplace and the learning communities; and
- Re-thinking education as a trans-sectoral policy that crosses other policies and sectors rather than maintaining education as a sector specific policy.

(Torres, 2004, p.49)

As Box 2.1 suggests, it appears that most of the current structures and organisations as well as the current curricular set-ups needs to be re-considered and to be re-structured to accommodate lifelong learning principles (Torres, 2009).

2.3.3 Lifelong learning and self-directed learning

As reported earlier, as an element of LLL, the concept of self-directed learning originated in the ideas of John Dewey, who stressed taking learners' experiences into account because all persons are born with unlimited potential for growth

and development. This view also implies that educators should serve as facilitators who substantiate learners' growth. It also implies that the presence of a teacher during learning is far from being the only factor that makes learning possible. The teacher, according to this view, is primarily a guide who does not necessarily need to interfere the learning process (Candy, 1991; Garrison, 2008; Wilcox, 1996). Meanwhile Knowles (1975, p. 18) defines self-directed learning as:-

‘a process in which individuals take the initiatives, with or without others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes’

Early studies in self-directed learning are associated with the works of Allan Tough in the 1970's that suggested that self-teaching constitutes a natural process among many adults (Wilcox, 1996). Subsequent studies by Knowles (1975, 1985), based on his andragogical¹⁹ model, also suggested that adults could responsibly learn by themselves. Knowles (1975, 1985) considered self-directed learning on a basis of a continuum with two major opposing ends. At one end of the continuum there is a teacher-directed model (*pedagogy*) where much of the learning is controlled by the teacher, whereas at the opposing end of the continuum there was a self-directed model (*andragogy*) where the learner takes control and directs much of the learning. The learner control of the learning process is primarily in activities such as learning needs identification, learning objectives formulation, planning, implementation and the evaluation of learning (Fisher *et al.*, 2001; Merriam, 2001).

¹⁹Andragogy can be conceptualised as the 'art and science of helping adults to learn'. The term was proposed by Malcolm Knowles in 1968 as a new label for adult learning that distinguishes adult learning from pre-adult learning (Malcolm, 1980, p.43; see also, Merriam, 2001, p.5).

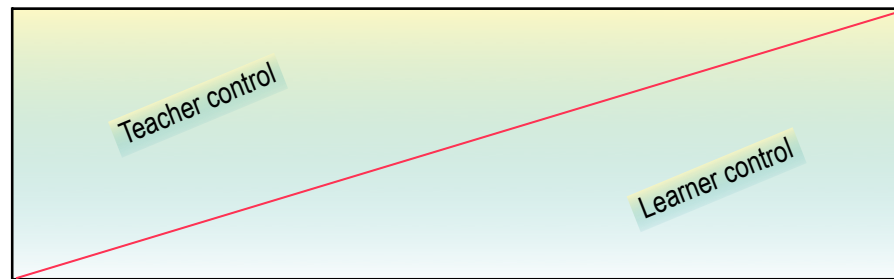


Figure 2.1 Hypothetical learner/teacher-centred Control of Learning
(Adopted from Candy, 1991: p.6)

Similar to Knowles, Candy (1991) also viewed the notion of self-directed learner's autonomy in the context of a continuum (*Figure 2.1*), in which both the teacher and the learner have a role to play with varying degrees of autonomy (*autodidactic*). Depending on the nature of control assumed, different teaching or learning methods might be adopted, ranging from indoctrination up to discovery learning (*see Figure 2.1*). In this model, the presence of a teacher as a guide or facilitator of learning is also emphasised for learning to take place.

Self-directed learning as a field of research has been the focus of many researchers in recent years (for example, Brockett & Hiemstra, 1991; Candy, 1988, 1991; Garrison, 1997; Guglielmino, 1977; Merriam & Caffarella, 1999). Among these, however, only a few, namely, Brockett and Hiemstra (1991) and Candy (1991), seem to provide a comprehensive analysis, detailed discussion and useful frameworks for understanding the subject. The study by Candy (1991), for example, provides a comprehensive conceptual framework for understanding self-directed learning and suggests two important dimensions of self-directed learning, namely, '*a goal*' and '*a process*'. According to Candy, the components constitute the most important dimensions in understanding the subject of self-directed learning. Self-directed learning, however, can also be regarded in the context of components such as (i) *a personal quality or attribute* (personal autonomy), (ii) *an independent pursuit of learning outside formal instructional settings* (autodidaxy), and (iii) *as a way of organising instruction* (learner-control) (Wilcox, 1996, p. 166).

Self-directed learning can also be understood from the perspective of Brockett & Hiemstra's (1991) Personal Responsibility Orientation (PRO) model, which views self-directed learning in the context of two principal components, namely, the

characteristics of the learner, and the characteristics of the teaching and learning process (see *Figure 2.2*).

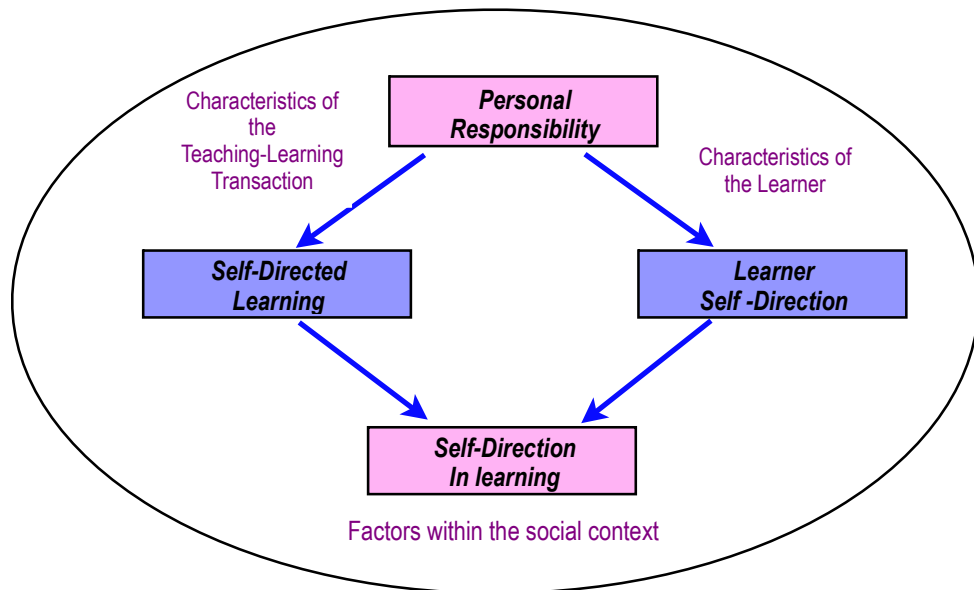


Figure 2.2 Personal Responsibility Orientation (PRO) model

Source: *Brockett & Hiemstra, (1991, p. 25)*

As *Figure 2.2* suggests, the consideration of factors external to the learner (*contextual factors*) as well as of internal factors (*personality characteristics*) is important not only in helping learners to take their primary role in planning and evaluating learning, but also in making one accept personal responsibility as a learner. The PRO model seems to be a useful way of looking at self-directed learning since it constitutes a point of departure in thinking about adult learning by balancing factors that influence learning, between factors within the learner and those outside the learner. Several researchers including Caffarella and O'Donnell (1989) and Candy (1991) agree with Brockett and Hiemstra (1991) about considering self-directed learning in terms of the two components suggested in the PRO model.

2.3.4 Self-directed learning in the context of LLL and HE institutions

In the context of higher education, the majority of educational systems in recent years have increasingly started integrating self-directed learning models into their educational systems. Within this context, different terms synonymous with self-directed learning such as 'personal autonomy', 'learners' personal

responsibility' and 'personal growth' have been used to suggest the importance of self-direction in learning. Increasingly, many universities have indicated their intentions to promote self-direction in their missions and visions. Similarly, many policy documents and academic discourses have frequently insisted on the need to promote universities' ability to produce self-directed learners who are able to keep on learning independently during their undergraduate education and after their graduation. The idea of self-directed learning also increasingly continues to be a concern for many researchers (Wilcox, 1996).

Candy (1991, p. 15) suggests the existence of a reciprocal relationship between lifelong learning and self-directed learning, arguing that,

'whereas self-directed learning comprises the commonest way used by adults to supplement formal learning throughout their lives, the major pre-occupation in lifelong learning has been to equip people with the competencies and skills necessary for personal learning beyond formal schooling'.

From this perspective Candy (1991, p. 84) considers self-directed learning as playing a dual function in lifelong learning, as both a means and as an end to lifelong learning. The concept of 'autodidaxy' noted earlier represents the principal way through which LLL can be pursued. According to this view, the two terms of 'lifelong learning' and 'self-directed learning' are regarded to be 'inseparable' and 'value-free' such that they can be implemented in any context regardless of political or any other alignment (p. 84). Vermunt (2003, p. 118) clarifies the notion of 'autodidactic' even further by arguing that learners in this mode of learning become their own teachers and decide about almost all aspects of the learning process including the nature of the problems to be addressed and the learning objectives to guide the learning. Learners also decide on other aspects such as the kind of resources to be consulted, the learning outcomes aimed at, and the nature of assessment and feedback. According to Vermunt (2003), however, the chances for complete autodidactic learning are minimal.

2.3.5 Lifelong learning and metacognition

The concept of metacognition is traditionally categorised into two broad components, namely, 'metacognitive knowledge' or 'knowledge of cognition', and 'regulation of cognition' (metacognition process). Whereas metacognition

knowledge implies one's knowledge about cognition or the extent someone is aware of cognition, the metacognitive processes suggest activities such as planning, monitoring and evaluation that one uses for controlling thinking and learning (Schraw & Moshman, 1995). The cognitive component on the other hand includes learning skills such as regulation strategies, problem-solving strategies and critical thinking. The strategies also include a wide variety of individual tactics that students and instructors can use to improve learning (Schraw *et al.*, 2006).

In recent years a significant number of researchers (for example, Flavell, 1979, 2000; Schraw *et al.*, 2006; Zimmerman, 1986) have increasingly researched the subject of metacognition. The majority of these studies are concerned with the manner in which individuals use their metacognitive knowledge and metacognitive skills to develop awareness of their thinking and control over their own cognitive processes (see, Kuhn, 2000; Schraw, 1998). Studies such as that conducted by Justice (2001) assume that metacognitive abilities develop over time. It is also assumed that, in comparison with children, adults have more chances to regulate their metacognitive skills. Similarly, studies also indicate that the metacognition skills are more likely to be enhanced by institutional practices (Brophy *et al.*, 1998; Hartman, 2001; Schraw & Moshman, 1995).

The implication of the foregoing discussion for the present study is the need for students to develop adequate metacognitive skills in order to become lifelong learners, that is, 'developing a set of assumptions, beliefs, and attitudes about goals to be achieved, the relevant behaviour to be held, the effective strategies to be applied and the outcomes to be expected in relation to learning' (Antonietti *et al.*, 2011, p. 199).

2.3.6 Lifelong learning in the context of higher learning institutions

With regard to the interplay between lifelong learning and higher education, quite a significant number of studies (for example, Candy *et al.*, 1994; Chapman & Aspin, 1997; Knapper & Cropley, 2000; Osborne & Thomas, 2003; Robertson, 1997; Walters & Watters, 2001) emphasise the necessity of accepting lifelong learning as a guiding principle in education. Propositions in these studies

indicate the necessity for higher learning institutions to transform their traditional practices and ways of doing things to accommodate LLL. Chapman & Aspin (1997), for instance, consider the move into lifelong learning to be the only critical issue linking the universities with the mission of schooling. School systems should not only desire students' achievements but also students' acquisition of a range of learning strategies necessary for life beyond school. As unique institutions in society with a formidable structure of experience and opportunities for learning, universities and school systems should be regarded as critical agents for promoting students' LLL skills (pp. ix - x).

A number of scholars (for example, Duke, 2002; Husen, 2002; Longworth & Davies, 1996; Vermunt, 2003), insist on transforming tertiary systems into lifelong learning institutions because the traditional school systems differ significantly from a school system truly adhering to lifelong learning principles. Vermunt (2003) suggests that whereas the aims of teaching in traditional education are mainly about teaching knowledge and skills of the subject domain that students can practise for the rest of their lives, the swift changes occurring in society no longer accommodate this model of education. In the current paradigm of education, the depth of the skills needed to function and the rate at which knowledge becomes out-dated makes it virtually impossible for students to master a field completely as they graduate. Vermunt (2003) further insists on the necessity for students to learn the skills essential to help them keep on learning and think independently and work in cooperation with others.

Meanwhile, Tight (1998) considers the linkage between higher education and lifelong learning to emanate from recent calls for reformation in education, which have now dominated educational discourse for more than three decades. The author also links lifelong learning discourses with the discourse about globalisation and competitiveness and the need for the inclusion of individuals into a broader society. The origin of the increased emphasis on lifelong learning, according to this perspective, is due to the individual's increased role in taking charge of their own learning to achieve 'self-fulfilment' as well as the increase in providers beyond the traditional educational systems (p. 253). Longworth and Davies (1996, p. 14) consider the linkage of higher education with LLL in the context of the centrality of school systems as essential avenues for laying the

groundwork for learning-to-learn skills and its role in providing a basic repertoire of skills and abilities crucial for the assimilation of further knowledge. Similarly, Duke (2002) maintains that as much as the tertiary systems are increasingly growing complex and costly, the LLL pedagogy is becoming increasingly central and a valid policy agenda for all modern universities. It is also suggested that tertiary education systems should not only be concerned with a quantitative increase in students, but, more importantly, they should be concerned with qualitative improvements in learning.

The foregoing discussion suggests the central role of school systems in cultivating and inspiring a culture of lifelong learning. The link between lifelong learning and higher education was also considered by Ford (2002, p. 121), who offered a somewhat summarised view of the essential processes critical for traditional organisations' cultural transformation into robust LLL systems. Among other things the higher education institutions need to: -

- have an agreed understanding of the need for learning, for example, open sharing of knowledge;
- form enterprise activities as part of learning opportunities;
- use information and communication technologies and systems in the provision of excellent opportunities for organisational learning;
- switch from linear production, hierarchy and status to a design criteria which includes knowledge-sharing, adaptability, flexibility and engagement;
- consider the teacher-learner relationship as an essential part of enhancing learning;
- form teams as a critical aspect of learning communities.

2.4 Higher education and graduate attributes

In the context of the connection between LLL and universities suggested above, most of the school systems have in recent years been striving to promote graduate 'meta-skills' or 'generic skills'. As opposed to a traditional perspective in which graduates were being prepared to master task-specific skills or skills peculiar to their courses of study, the focus has been on training graduates to

possess a set of generic skills that are applicable to a wide range of tasks (Barrie, 2006; Pitman & Broomhall, 2009). The need for the promotion of graduate attributes has in most cases been motivated by factors such as a belief that a specific set of skills is needed by all graduates, the market employment needs, and the unsettled debates about the purpose of university education. Other motives have also included a search for the right way of developing a well-educated person who is both employable and is adept at contributing to civil society (Gilbert *et al.*, 2004; Hager & Holland, 2006).

Graduate attributes as a concept refers to the diverse range of skills, knowledge and temperaments possessed by students (Hager & Holland, 2006). It signifies an attempt to pursue different visions of the lifelong learning agenda in universities (Pitman & Broomhall, 2009), and acts as a proper descriptor of the diverse qualities of functionalities. Graduate attributes may also be viewed as the qualifications and skills regarded by a particular university community to be essential for students to develop while at the university as well as being important for them to contribute to their profession and society (Bowden *et al.*, 2000). Examples of graduate attributes include skills such as logical and analytical reasoning, problem-solving and intellectual curiosity. They also include imagination, creativity and intellectual rigour, and values such as ethical practice, persistence, integrity and tolerance (Hager & Holland, 2006, p. 3).

Barrie (2004, p. 263), considers the features of graduate attributes to include the following: -

- being developed regardless of fields/domains of knowledge, that is, they surpass disciplinary outcomes;
- occurring as an important outcome of university level learning experiences as opposed to entry level skills;
- being more than skills, that is, they are referred to as 'graduate attributes' rather than 'graduate skills';
- their outcomes result from the usual processes or experiences of higher education and they are not a set of additional outcomes that require an additional curriculum.

Graduate attributes can also differ according to the criteria assumed. The graduate attributes suggested in the Dearing (1997) report, for example, include: 'application of numbers' (numeracy), 'communication', 'information literacy', 'improving own learning and performance' (learning how to learn, and problem-solving). Meanwhile, De La Harpe & Radloff (2008) consider the graduate attributes as constituting 'communication', 'team-work', 'analytical thinking', 'problem-solving' and 'information literacy'. De La Harpe & Radloff further suggest that the lifelong learning attributes include the qualities of 'self-management' and 'metacognitive skills' such as 'goal-setting', 'monitoring' and 'evaluating learning processes and outcomes'. As summarised by Lawson *et al.* (2006, p. 17), however, graduate attributes can be categorised as follows: -

- attributes that focus on the literacy skills required in different areas of life, for example, communication.
- attributes that describe processes that can be applied in many tasks, for example, problem-solving or planning.
- personal qualities related to the development of agency in the learner such as self-efficacy, initiative and enterprise
- interpersonal skills enabling a learner to gain value from interaction with others engaged in the same or related tasks.

The literature also suggests that the possession of a range of graduate attributes is an important quality for students' development of a lifelong learning capacity. Likewise, the graduate attributes also represent important indicators of quality assurance and are central in the debates about the role and nature of education offered at university, playing a significant part in improving teaching and learning initiatives (Hager & Holland, 2006). Authors such as Barrie (2004), Bridgstock (2009) and De La Harpe and Radloff (2008) conclude that graduate attributes can also serve as targets for preparing graduates for doing social good. Hager & Holland (2006) consider graduate attributes to be developed mainly within an active learning environment in which the teaching and learning methods adhere to such principles as: -

- adult learning
- a holistic approach to learning
- problem-based learning
- lifelong learning
- learning 'how', 'why' and exploring 'what if...', not just receiving facts

- learner-reflected evaluation and articulation on learning experiences as a critical aspect of the learning process
- an active learner-centred approach in which integrated thinking and action occurs with tasks that are relevant and meaningful to learners
- the teacher assuming multiple roles, such as being a mentor, coach, facilitator or evaluator, that include demonstration/modelling of the generic attributes to learners (Hager & Holland, 2006, p. 8).

2.4.1 Limitations with graduate attributes

Nevertheless, despite the importance of graduate attributes highlighted above, critics consider the general discourses and conceptualisation of graduate attributes to be characterised by many limitations (Barrie, 2004; Bridgstock, 2009; Clanchy & Ballard, 1995; Green *et al.*, 2009; Sumsion & Goodfellow, 2004). Many of the weaknesses in the literature, however, are mainly about the ‘pervasive vagueness and inconsistencies’ in the use of concepts and terminologies (Clanchy & Ballard, 1995). Shortcomings also include the lack of methodological or conceptual rigour in their formulation and the lack of attention to the contexts in which graduate attributes are developed, as well as the paucity of evidence to suggest that graduate attributes are transferable across contexts (Sumsion & Goodfellow, 2004). Barrie (2004) and Barnett (2000a), for example, maintain that even though graduate attributes are vital in shaping higher education, they generally lack the conceptual support and theoretical underpinnings. Barrie (2004) argues further that, most of the graduate attributes are merely compilations of traits perceived by stakeholders as popular, and they lack critical significant empirical scrutiny on the outcomes they represent. Other limitations are concerned with the transferability of attributes, such as ‘critical thinking’ and ‘creativity’, which are regarded on the basis of specific domains, activities or tasks rather than being viewed as a context-free (Clanchy & Ballard, 1995).

2.5 The attributes of a ‘lifelong learner’

As discussed earlier, most studies seem to consider graduate attributes as more or less the same as lifelong learning attributes. Some studies such as those conducted by Longworth and Davies (1996) and Knapper and Cropley (2000),

however, depict lifelong learning attributes as unique. Longworth and Davies (1996, p. 20), for example, consider LLL attributes to be distinguishable from other graduate attributes since the lifelong learner qualities involve the following abilities:-

‘information-handling, entrepreneurial skills, self-esteem, decision-making, problem-solving and self-management; empathy and tolerance of others, creativity, a sense of humour, flexibility adaptability and versatility, critical judgment, thinking and vision, planning, practical skills, learning-to-learn, discussing and communicating informally, presenting and communicating formally’.

Longworth and Davies (1996), suggest that while other kinds of attributes solely depend on the schooling process, the school is not solely responsible for the development of LLL attributes. The lifelong learning attributes instead are developed in conjunction with other partners in society including parents, professional organisations and interest groups. Knapper and Cropley (2000, p. 46) maintain that attributes of lifelong learners are unique because they are not defined in a psychological manner. For Knapper and Cropley (2000), LLL attributes encompass two major components, namely, (1) ‘individuals’ abilities to learn’ (knowledge, skills, abilities, and thinking processes); and (2) ‘individual willingness or readiness to learn’ (motivation, attitudes, values and self-image, positive attitudes to learning, confidence in oneself and willingness to question received wisdom), p.46. The analysis of qualities of a lifelong learner by Knapper & Cropley (2000) seems to be useful since it contradicts the traditional approach of viewing learning in the context of acquisition of a ‘set of knowledge’ at one time followed by a re-application of that knowledge in the future. This view instead considers a set of abilities that are crucial for LLL. Knapper and Cropley (2000, p. 48) also consider the qualities of a lifelong learner in the context of both the cognitive and non-cognitive domains portraying a lifelong learner as someone who: -

- is strongly aware of the relationships between learning and real life
- is aware of the need for lifelong learning
- is highly motivated to pursue lifelong learning
- possesses a self-concept conducive to lifelong learning
- has necessary skills for lifelong learning, including: -

- the capacity to set personal objectives in a realistic way
- effectiveness in applying knowledge already possessed
- skills at locating information
- skills in using aids such as libraries or the media
- ability to use and interpret materials from different subject areas.

As Knapper and Cropley (2000, p. 48) further recommend, a comprehensive examination of LLL requires both an understanding of the concept of ‘learning-to-learn’ and a consideration of school. This view considers school as an important entity because of its ability to open up numerous possibilities for students to develop personal competencies and pre-requisites for learning. As Knapper & Cropley (2000) put it, the school system can promote a variety of instructional objectives in the context of lifelong learning (*Table 2.3*).

Table 2.3 Objectives of instruction in the context of lifelong learning

Objectives related to	
Vertical integration (that is, life-long)	Horizontal integration (that is, life-wide)
Students acquire self-image as lifelong learners.	Students regard learning in life as relevant to formal learning.
Change produces positive motivation for further learning.	Students are able to learn in a variety of settings.
Students regard learning as an on-going process.	Students regard other learners as a valuable source of knowledge.
Students gain experience in planning learning.	Students are able to integrate material from different areas to solve problems.
Students evaluate their own learning and identify necessary further steps.	Students evaluate their progress in terms of broad societal criteria.

Adapted from Knapper and Cropley (2000, p. 48)

Even though Knapper and Cropley (2000) agree that it is unlikely that many higher education systems would achieve objectives from horizontal and vertical integration presented in Table 2.3, they suggest that the LLL goals proposed should form important criteria for judging the LLL practices adopted in higher education institutions.

In a comparatively disparate way, Candy *et al.* (1994) portray a somewhat different profile of a lifelong learner as someone who has:-

- an ‘inquiring mind’: a learner who is propelled by a love and curiosity for learning, a critical spirit and self-monitoring of his/her own learning.

- ‘helicopter’ vision: an ability to master a particular field and inter-relate different fields of knowledge together as opposed to compartmentalised learning.
- ‘information literacy’: awareness of how, where, and when to access information, plus the capacity to critically evaluate the data collected.
- a sense of ‘personal agency’: a positive image of oneself, self-concept, self-organising skills and a positive attitude to learning, coupled with the capacity to manage one’s own learning style.
- ‘a range of learning skills’ focused on deep learning as opposed to surface learning: having a variety of learning skills at his or her disposal. Deduction of general principle underlying specific knowledge that can be applied in a different situation (Candy *et al.*, 1994, p. 43).

According to Candy *et al.* (1994), this proposed set of lifelong learning attributes provides a basis for reforming undergraduate education towards promoting effective lifelong learners. As for university courses likely to promote the LLL capacity, Candy *et al.* (1994) recommend five key course characteristics as follows: -

- to provide a systematic introduction to the field of study and offer a domain-relevant content
- to put content into a context (that is, a general context)
- to seek to broaden the student and provide generic skills
- to offer some freedom of choice and flexibility in structure (offering choice and self-direction for students, and
- to provide for incremental development of self-directed learning (Candy *et al.*, 1994, p. 66).

A study by Candy *et al.* (1994) also recommends the adoption of teaching methods that are based on elements such as deeper-assisted and self-directed learning, experiential and real-world learning, and resource-based learning in order to promote LLL. Additional features include problem-based teaching, open learning and alternative delivery mechanisms and courses encouraging reflective practice and critical self-awareness. Likewise, the assessment procedures should involve self- and peer-assessment with the assessment used as an opportunity for

learning focusing more on 'what is learnt' rather than on 'how much is learnt'. The study, in addition, proposes an intellectual inquiry climate characterised by academic members of staff who demonstrate their own curiosity, passion and predisposition to continue learning, (Candy, *et al.*, p.66).

Even if Candy *et al.* (1994)'s study seems to provide a relatively comprehensive and plausible framework for understanding a lifelong learner, the study is not free from criticisms with regard to the approach and propositions used. The study, for example, is criticised in terms of the unclear originality of the analysis in identifying the lifelong learners' profile and in terms of overlooking the place of informal learning in the analysis provided (see, Beckett & Hager, 2002, pp. 109-110). While the critics do not dismiss Candy's profile of a lifelong learner, they suggest the importance of considering the profile of a lifelong learner on the basis of contextual, social and relational aspects rather than considering it only from the individual perspective.

2.6 The attributes of a 'lifelong learner' in the present study

As noted earlier in this chapter, given the complexity of the subject of lifelong learning and the existence of many possible learner personalities and characteristics that might lead into a compilation of an extensive list of qualities (Hager & Holland, 2006; Illeris, 2009), it seemed imperative for the present study to develop a framework of the specific attributes to be measured.

Until recently, the Candy *et al.* (1994) conceptualisation of a lifelong learner's personality remained as the most widely acceptable profile of a lifelong learner (see for example, Bath & Smith, 2009; Kirby *et al.*, 2010; Knapper & Cropley, 2000; Óhidy, 2008). Using Candy's framework, Kirby *et al.* (2010, p. 294) considered the five characteristics of a lifelong learner to include '(1) goal-setting (2) application of knowledge and skills (3) self-direction and self-evaluating (4) locating information, and (5) learning strategy adaptation'. Another study by De la Harpe *et al.* (2000) also considered the important skills for lifelong learners and effective university learners on the basis of Pintrich *et al.* (1991)'s and Zimmerman and Cleary (2006)'s work to include self-knowledge, self-confidence, persistence, a positive view of the value of learning, and self-

management skills. Additional skills include being well organised, the ability to manage time and effort, and knowing how to collaborate. In particular, the authors emphasised that lifelong learners must possess two broad qualities, namely, (1) the 'will' to learn, and (2) the 'skills' for learning in the form of cognitive, metacognitive, motivational and affective characteristics (see also Ohidy, 2008 & Bath & Smith, 2009). This view further suggests that lifelong learners should also possess attributes such as self-motivation for learning, positive feelings about themselves as learners and be able to manage their feelings (De la Harpe *et al.*, 2000, p. 170).

One common theme which clearly seemed to emerge from the literature is the observation that some graduate attributes such as 'information skills' appeared to be more repeatedly emphasised in the literature than others (for example, teamwork). As stated earlier, for the purpose of avoiding ambiguity and the need to prevent the study from becoming unfocused by addressing many different attributes related to the personality of a lifelong learner, only the LLL attributes that appeared to be more repeatedly emphasised in the literature were selected. It seems from the literature reviewed so far that two major constructs, namely, (1) the 'students' will or personal motives for learning', and (2) 'unique learning strategies', should constitute lifelong learners' personality or attributes. As suggested in most of the studies, these two stated behaviours seemed to form a basis from which the students' lifelong learning attributes could be appropriately derived (Bath & Smith, 2009; De La Harpe & Radloff, 2008; Knapper & Croyley, 2000). On the basis of these two broad components, the present study has categorised lifelong learning attributes into four related constructs, namely, (1) 'learning-to-learn' (2) 'personal agency' (3) 'information skills', and (4) 'entrepreneurial skills' (*Table 2.4*).

Table 2.4 The lifelong learning attributes examined in the study

Attribute	Indicative behaviour
Learning-to-learn [Ability to assess and manage ones learning process (reflection)].	Self-regulation & metacognition, for example, management of time & information, planning, monitoring & evaluating learning The use of deep approach vs. surface or strategic approach
Personal agency (Students' ability for self-influence).	Goal-setting, self-directedness, self-efficacy. Individual positive self-image versus negative image intrinsic motivation versus extrinsic motivation.
Information skills (Pre-requisite skills helping individuals to engage in all other aspects of lifelong learning).	Abilities for defining and articulating information needs; skills for locating and accessing information; assessment of information; organisation of information; the use of information, and ethical use of information
Entrepreneurial skills That is, skills encouraging the ability to engage in new ventures & a future scenario.	Skills to cope with changing circumstances, internal locus of control, skills for innovation skills, risk-taking etc.

The attributes indicated in Table 2.4 are clarified further below.

2.6.1 Learning-to-learn

As an essential attribute of a lifelong learner, the construct of 'learning-to-learn' is frequently associated with a lifelong learning discourse in the literature (see for example, Candy, 1991; Cornford, 2000; Cornford, 2002; Knapper & Cropley, 2000). Even though the concept of 'learning-to-learn' is defined differently by different authors (see for example, Bryony & Ulf, 2008; Rawson, 2000), the majority of studies seem to associate 'learning-to-learn' with metacognitive skills such as 'self-regulation'. Rawson (2000, p. 225), for example, considers 'learning-to-learn' as a set of skills such as critical analysis, time management, planning and goal-setting. Rawson further argues that 'developing 'learning-to-learn' skills in a school setting requires students' involvement in self-reflexive processes constituting a conscious examination of their learning processes and building awareness of themselves as a learners'. As the EC (2002) suggests, the promotion of 'learning-to-learn' skills requires school systems to develop structures that could allow students to have at their disposal a set of meta-skills necessary for them to successfully construct and shape their

own learning. As defined by the European Education Council (2006), ‘learning-to-learn’ constitutes: -

...an ability to pursue and persist in learning, to organise one’s own learning, including thorough effective management of time and information, both individually and in groups. It includes awareness of one’s learning processes and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. It also requires learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training’ (EC, 2006, Annex para 5).

Meanwhile, Bryony & Ulf (2008) consider ‘learning-to-learn’ in terms of two broad domains, ‘affective’ and ‘cognitive’. In relation to the affective domain learning to learn is regarded as comprising social skills such as learning relationships, motivation, confidence and learning strategies (that is, an ability to organise one’s own learning, including a thorough and effective management of time and information). The cognitive domain on the other hand includes skills such as the ‘capacity to gain, process and assimilate knowledge’ and an ‘ability to handle obstacles’. The implication for the present study is the importance of focusing on both cognitive and affective learning processes. The examples of cognitive processes according to the author include elements such as knowledge acquisition, quantitative related comprehension, logical reasoning, text comprehension and cultural knowledge. The examples of affective ‘learning-to-learn’ skills include sub-systems related to motivational and attitudinal factors such as learning motivation, school-subject related beliefs and the support of significant others (Hautamäki *et al.*, 2002). A study by CRELL (2006) indicates that both cognitive and affective learning-to-learn skills can be taught and instilled as a non-separable part of education or be embedded in different subject areas taught at school. As a generic skill, learning-to-learn strategies are not content- or context-based but rather demonstrate trans-disciplinary competence.

2.6.2 Personal agency

The concept of ‘personal agency’ is associated with notions such as pro-action initiatives, assertiveness and persistence as predictors of individuals’ capacity and potential for development (Bandura, 2001; Chen, 2006). It was conceived in

the present study as a combination of human capacity and the capabilities necessary for an individual's control over their personal life. Important qualities for 'personal agency' also include self-influence, self-awareness and forethought. Chen (2006) considers this kind of human potential to vary from one person to another and to be a dynamic, complex and unique quality that exists within each person.

Studies by Ecclestone (2009) and Zimmerman & Cleary (2006) view human agency as a combination of attributes such as self-efficacy and 'personal agency'. The individual's agency actions from this perspective constitute mental actions such as one's own positive image, the capacity to manage a personal learning style, a sense of self-concept, self-organising and a positive attitude to learning (Billett & Pavolva, 2005, p. 197). As one of the important foundations of human behaviour, self-efficacy (one's beliefs concerning one's personal ability to engage successfully in a target behaviour) enables individuals to exercise human agency (Betz & Hackett, 1987). Students with a strong sense of self-efficacy for learning are therefore also likely to develop other positive skills such as resilience and the ability to resist negative academic influences from peers with weak self-efficacy (Zimmerman & Cleary, 2006). Self-efficacy can also be understood within the context of self-regulation skills because of its proactive impact on the performance and self-evaluation skills involved, as illustrated in Figure 2.3.

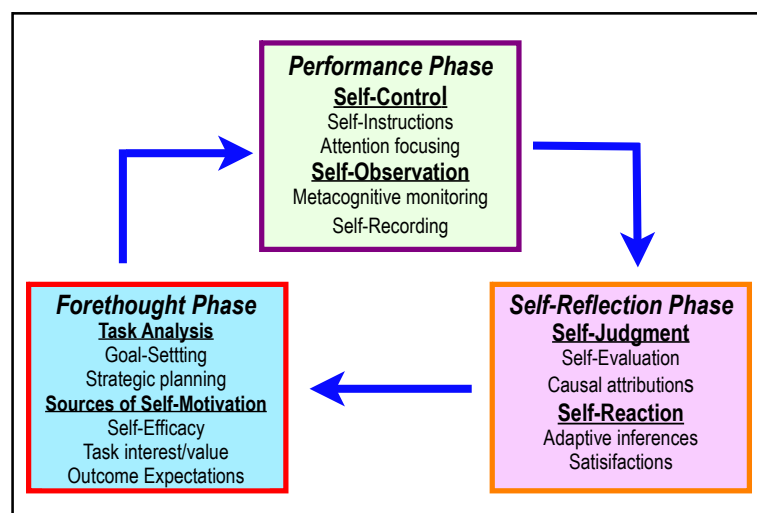


Figure 2.3 Phases and sub-processes of self-regulation

Adopted from Zimmerman and Cleary (2006, p. 57).

As Figure 2.3 suggests, different sub-processes are involved in self-regulation and self-efficacy. In the forethought phase, beliefs of personal capabilities affect the type and nature of goals students select. Likewise, sources for LLL motivation include skills such as self-efficacy, outcome expectations and task valuing. In the performance phase, self-monitoring is another important skill necessary for discriminating between effective and ineffective behaviour. Lastly, the self-reflective phase is about one's evaluation of goals. As suggested in Figure 2.3, the ability to set personal goals and intentions seems to form another important skill necessary for predicting an individual's capacity and potential for lifelong learning (Betz & Hackett, 1987; Chen, 2006; Zimmerman & Cleary, 2006).

2.6.3 Information skills

There is a consensus in the literature with regard to the centrality of 'information skills' in the development of LLL attributes (Bundy, 2004; Candy *et al.*, 1994; Knapper & Cropley, 2000). In particular, 'information skills' are essential because they represent a route through which one can pursue several other lifelong learning goals (Catts & Lau, 2008). The possession of information skills by students is also critical because it characterises students' ability to access, evaluate, organise and use information resources. In addition to this, 'information skills' are important for learning tasks such as problem-solving and decision-making, both in formal and informal learning contexts, at home and in school settings (Bruce, 1997, p. 4). As defined by the Council of Australian University Librarians (CAUL, 2001, p. 1), information skills constitute 'a set of abilities that enables individuals to recognise the moment when information is needed and capacity to locate, evaluate and use effectively the needed information'. From this perspective, therefore, one can be considered to be information literate if one can demonstrate skills such as accessing, organising, understanding legal and ethical implications in using information, evaluating and applying information.

As suggested above, 'information skills' assume a combination of capabilities that form important pre-requisites for LLL. As a generic proficiency, it is regarded to be essential for all kinds of learning environments, all disciplines and all levels of education. It constitutes essential skill needed for helping

learners to engage critically with content and it is also crucial in helping students to engage in self-directed learning (CAUL, 2001, p. 2). Adequate possession of information skills is also central for students to assume greater control of learning. Information skills in addition could allow one to engage in asking informed questions, which are important for sharpening their critical thinking. Catts and Lau (2008) indicate that as a critical part of their lifelong learning missions, higher learning institutions should seek to promote a continued growth in information skills in students (*Figure 2.4*). As CAUL (2001) suggests, the institutional information literacy schemes should not necessarily be created as extraneous to the curriculum but interwoven into its content, structure and sequence.

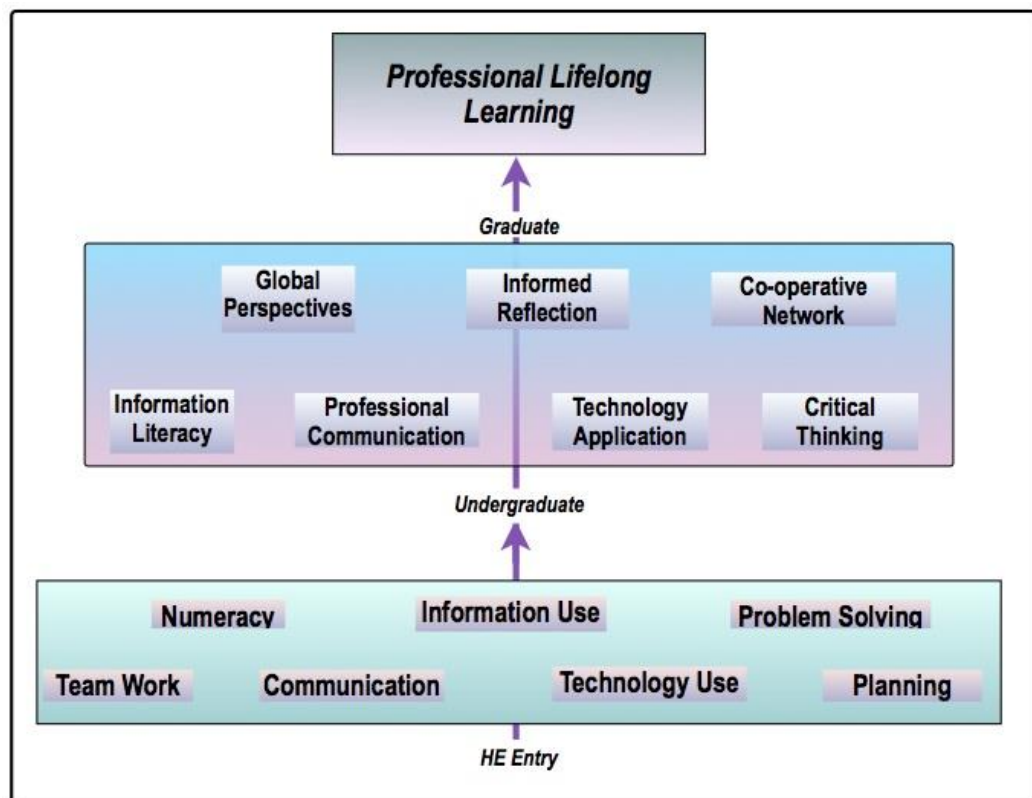


Figure 2.4 Hierarchical model for generic skills in higher education

Source: Catts and Lau (2008, p. 19)

As the Catts and Lau (2008) model above shows, the promotion of ‘information skills’ is fundamental to higher education efforts to foster LLL skills. The model differentiates the basic generic skills needed for general education from the situated professional capacities that are required for someone to operate in a knowledge economy. The important question for the present study that was prompted by this model was to establish the extent to which university

experiences in Tanzania were preparing graduates to grow to the utmost level of 'information skills' that might allow them to pursue lifelong learning goals.

2.6.4 Entrepreneurial skills

The 'entrepreneurial skills' constituted the other construct characterising lifelong learners. Studies by Volkamann (2004) and Yorke (2005) associated the concept of entrepreneurship with skills and personal characteristics such as locus of control, innovation and risk-taking. Even though entrepreneurship has a long history in the literature, the formal 'entrepreneurial skills' offered at university level seem to be of recent origin. It was not until 1947 in the U.S. and in the 1980's in the U.K. that the first courses were established before the concept gained a global university level recognition. In the 1997 Dearing report (Dearing, 1997), the central role of higher education in preparing students for the world of work was revitalised and there has been an increased attention to promoting 'entrepreneurial skills' since then. Twofold levels of integrating 'entrepreneurial skills' in higher education exist, namely, the institutional level and the programme level. Studies by Gibb (1987, 1993), suggest that enterprising skills and entrepreneurship education can also take place within or as an adjunct to the education system. 'Entrepreneurial skills' can also develop from many other sources (*Figure 2.5*).

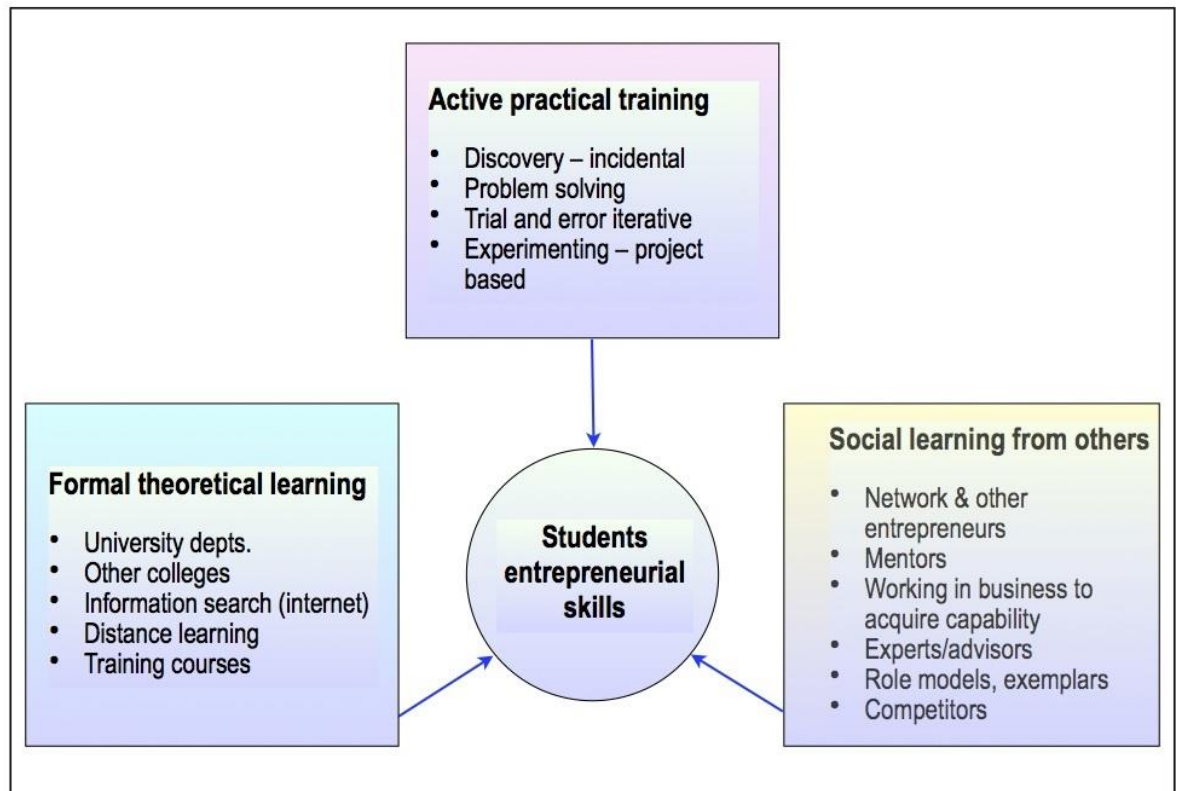


Figure 2.5 Sources of entrepreneurial skills

Adapted from Rae (1999, p. 184)

As suggested in Figure 2.5, entrepreneurial orientations may not be entirely the result of undergraduate learning but can also be the result of experiential learning. Cope (2005), Rae (1999) and Gibb (1987) maintain that undergraduate education is a critical component in triggering students towards engaging in an entrepreneurial attitude. It is also suggested in these studies that entrepreneurs could 'grow and develop' through higher education. A study by Moustghfir and Sirca (2010), for example, asserts that 'entrepreneurial skills' might be acquired and be continuously shaped through LLL processes. There is a widespread consensus in the literature to suggest a relationship between entrepreneurship and learning (see, Cope, 2005; Gibb, 1987, 1993; Rae, 2000). A study by Frank (2005), for example, proposes different scenarios and approaches through which students might learn by engaging into entrepreneurial activities (*Table 2.5*).

Table 2.5 Scenarios for avenues for learning entrepreneurial skills

Entrepreneurial opportunities	Skills/Attitudes	Teaching/Pedagogy
<i>Business/consultancy in area of professional specialisation</i> Typically happens after graduation due to the requirement to practise within professional codes of conduct and accreditation.	General business skills such as marketing, time management etc. Confidence, enthusiasm, willingness to work hard	Internship/work in a small practice Student-run consultancy at university
<i>Social entrepreneurship</i> Employing creativity and innovation to improve the public good rather than for private profit	Idea development, leadership, working with the public, fund-raising, negotiation, planning, organising, enthusiasm, self-belief & confidence.	Community partnership projects, live projects, internships, shadowing of social entrepreneurs
<i>Entrepreneurship</i> Working within an organisation or agency to effect change by developing new ideas, procedures or products, by innovating practice and thereby enhancing the business.	Idea development, recognising opportunities for improvements alliance building, confidence, leadership.	Case studies
<i>Non-traditional specialist businesses</i> , for example, an architect opening a specialty touring business or starting a computer-aided design training consultancy.	General Business idea development, creativity, confidence, willingness to work hard.	Work experience Case studies
<i>General business ventures</i> (web-design, marketing etc.)	Idea development, creativity, confidence, willingness to work hard general business	Business plan competitions

Adapted from Frank (2005, p. 4)

University experiences seem to offer essential avenues for students to develop entrepreneurial identities such as innovation, risk-taking, the ability to plan, and self-employment (Moreland, 2006). As Moreland (2006) suggests, even though subjects like Business more easily lend themselves to entrepreneurial skills development than others, different universities follow different models in embedding 'entrepreneurial skills' in the curriculum. Whereas in some universities entrepreneurship is embedded in courses such as Business Studies, Engineering and Science, in others the e-learning modules on entrepreneurship are integrated in the undergraduate curriculum for all courses. Likewise, some other universities have established independent units to offer entrepreneurial skills to all students. As Frank (2005) suggests, embedding entrepreneurial and employability skills in the curriculum essentially requires support from different bodies, including different departments as well as professional partnership bodies and those concerned with accreditation.

As noted earlier, within the Tanzanian context, since the country has been pursuing socialist political and economic policies for many decades, the integration of entrepreneurship into the curriculum is quite a recent phenomenon that only started to emerge after the adoption of the IMF and World Bank micro-economic and market liberalisation policy reforms. A study by Mwasalwiba *et al.* (2012) indicates that entrepreneurship gained prominence particularly after the freezing of graduates' employment in public agencies so that graduates were compelled to consider self-employment as an option (see also, Mushi, 2009).

At the UDSM, since mid-1990, the university has resolved to 'promote and maintain the development of 'entrepreneurial skills' (*among students*²⁰)' as part of its basic societal mission (UDSM, 2010, p. 5). However, as reported earlier in Chapter 1 despite the university commitment to the promotion of entrepreneurial skills, there seems to be a lack of systematic empirical studies examining the interplay between higher education and 'entrepreneurial skills' development. With the exception of a recent study conducted by Mwasalwiba *et al.* (2012), which had some elements on graduate 'entrepreneurial skills', most of the previous studies conducted in Tanzania in this area seem to have overlooked the undergraduate students' development of entrepreneurial skills (for example, Matambalya & Assad, 2002; Olomi, 2001, 2009; Trulsson, 1997).

2.7 Research in higher education

In the past few decades, research on undergraduate students' learning has passed several milestones resulting in the emergence of several influential research traditions. Since the present study is specifically concerned with examining learning in higher education, it seemed crucial to highlight some of the influential research traditions in higher education.

2.7.1 College impact research tradition

Among the dominant research traditions in colleges and universities, particularly in America, has been college impact research that has focused on identity development and college effects on students (Brennan *et al.*, 2010). The

²⁰ Added for emphasis

frequently cited research studies pioneering this research tradition are mainly associated with studies by Pascarella & Terenzini, (1991, 2005), examining complex issues related to college effects on students. In these studies Pascarella & Terenzini (1991, 2005) address six key issues related to students' learning and development, namely, (1) change during college, that is, how does the outcome in question change during college? (2) net effects of college, that is, the extent to which changes can be attributed to the college experience (3) between-college effects, that is, whether the degree of change varies across different types of colleges (4) within-college effects: whether or not the changes vary according to the students' specific experiences (5) conditional effects, that is, focusing on whether the effects of college vary among different types of students (6) long-term effects, that is, addressing the question of how long-lasting the effects examined are. The findings by Pascarella & Terenzini (1991; 2005) *inter alia* suggest that when compared to non-attendance at colleges, the college attendance results broadly have an enduring effect. One of the important conclusions from these studies include the findings that the impact of college is largely determined by the individual quality of efforts and the involvement in academic and non-academic matters (Astin, 2005; Barrett, 1994).

2.7.2 Students' approaches to learning (SAL) research tradition

Much of the preliminary curiosity in researching 'Student Approaches to Learning' (SAL) in higher education is associated with the seminal works by Marton & Säljö (1976a, 1976b) contrasting students' use of 'deep' and 'surface' learning approaches to learning (Biggs, 1999; Zeegers, 1999, 2002). In this research tradition, researchers mainly examine the qualitative differences in the way students engage in learning or cope with learning tasks as reported by the students themselves (Vanthournout *et al.*, 2009). Marton & Säljö (1976a, 1976b) asked students to read objectively long passages from academic articles and then asked questions about the content and about how they read the passages (Ramsden, 1985). Responses by students suggested the presence of qualitatively different approaches to learning. The first group learned the text in anticipation of questions and concentrated on facts and details that could be asked using a surface approach to learning. Consequently what they remembered was a list of disjointed facts as opposed to comprehension of the passages. By contrast, the

second group aimed at understanding the meaning of the text in such a way that they went below the surface of the text to integrate the meaning using a 'deep approach'. Students in the latter group appeared to be different because they could see the big picture as well as facts and details given by the author (Biggs, 1999).

A study by Marton & Säljö (1976b) *inter alia* challenges the evaluation of students' learning by only focusing on the quantitative correct responses students make, that is, the correspondence between the information presented and the answer given by a learner (see, Ramsden, 1985, p. 54). According to Marton & Säljö (1976b), to understand students' learning it is important to make use of phenomenographic ways of data collection (Säljö, 1997). Phenomenography studies focus on descriptions of the qualitatively different ways in which particular sorts of students understand a phenomenon or experience some aspects of the world (Booth, 1997; Säljö, 1997). Marton & Säljö (1976a, 1976b) also stress the consideration of the functional relationship between the intention, process and the outcome of the learning process (Ramsden, 1985). As Biggs (1999) puts it, the studies by Marton & Säljö have been a source of increasing momentum and aroused a growing interest in studies based on the SAL research tradition. Notable works include that of Entwistle in the U.K. (Entwistle & Ramsden, 1981, 1983) and that of Biggs in Australia (Biggs, 1979, 1987, 1988, 1999).

The other learning approach suggested to be used in conjunction with a 'deep' or 'surface' learning, is the 'strategic' learning approach (Biggs, 1987, 1988; Entwistle, 1984). Newble and Entwistle (1986) differentiate the 'strategic learning approach' from other learning approaches in the sense that, unlike the 'deep approach', the use of the 'strategic learning' approach is greatly influenced by the context rather than the nature of the learning task at hand. It is further argued that the use of 'strategic learning approach' is based on the students' search for a strategy they believe to be likely to result in higher grades, so that it sometimes becomes harder to isolate them from students who use 'deep' or 'surface' approaches. Table 2.6 illustrates the differences among the three approaches.

Table 2.6 Approaches to learning

Deep approach: <i>seeking meaning</i>	Surface approach: <i>reproducing</i>	Strategic approach: <i>reflective organising</i>
<i>Intention</i> : understanding ideas for yourself, by:	<i>Intention</i> - coping with unit requirements, by:	<i>Intention</i> - achieving the highest possible grades, by:
Relating ideas to previous knowledge and experience	Treating the unit as unrelated bits of knowledge	Putting consistent effort into studying
Looking for patterns and underlying principles	Memorising facts and carrying out procedures routinely	Managing time and effort effectively
Checking evidence and relating it to conclusions	Finding difficulty in making sense of new ideas presented	Finding the right conditions and materials for studying
Examining logic and argument cautiously and critically	Seeing little value or meaning in either unit or tasks set	Monitoring the effectiveness of ways of studying
Being aware of understanding developing while learning	Studying without reflecting on either purpose or strategy	Being alert to assessment requirements and criteria
Becoming actively interested in the unit content	Feeling undue pressure and worry about work	Gearing work to the perceived preferences of lecturers

Adapted from Entwistle *et al.* (2001, p. 109)

Since the initial studies by Marton & Säljö (1976a, 1976b), a growing number of similar studies have emerged in various areas with the mutual aim of either developing self-report instruments to measure SAL or of examining students' preferred cognitive styles (see for instance, McCune, 2000; Vanthournout *et al.*, 2009; Vermetten *et al.*, 1999; Zeegers, 1999). Shared findings from most of these studies, however, have resulted in observations that students approach their learning in qualitatively different ways. Consistent findings in most of these studies also resulted in the conclusion that the major determinants of students' learning are based on 'personal' and 'situational' factors, that is, the approach used depends partly upon personality traits and partly on the immediate demands of the task as well as the context in which it is placed (Biggs, 1988; Ramsden, 1985). Consequently, two main theories of learning, namely, phenomenography and constructivism, are implied within the student

approaches to the learning paradigm. As suggested by Marton (1981) the term 'phenomenography' connotes a theory that grew out of original works by Marton & Säljö (1976a, 1976b). Similarly, the term constructivism refers to individual and social experiences encountered in learning environments as well as in the real world, allowing individuals to construct their own meanings. It involves the construction of knowledge from the active process of articulation and reflection within the individual's experiences with an interpretation of the context (Jonassen, 1991).

2.8 Previous studies on undergraduate students' development of a LLL capacity

As noted earlier in this chapter, despite long-term world-wide attention to the imperatives for transforming educational establishments into institutions of lifelong learning (Beckett & Hager, 2002; Crick *et al.*, 2004; De la Harpe *et al.*, 2000; Delor *et al.*, 1996; Faure *et al.*, 1972; Osborne & Thomas, 2003), there has been a dearth of empirical studies in this area. An evident lack of empirical studies in this area seemed to be particularly apparent in the context of developing countries such as Tanzania.

Regarding this scarcity of studies, Biesta (2008), for example, noted that the majority of the existing studies concentrated on examining institutional practices and policies to such an extent that they neglected to focus on individual learning behaviours and students' learning biographies and trajectories. Limitations in such studies also included not studying the inter-relation between learning, identity and agency in students' lives (that is, a biographical approach). A study by Nesbit *et al.*, (2007) on the provision and development of lifelong learning within institutions of higher education, for example, primarily focused on the institutional characteristics that enabled or discouraged lifelong learning and overlooked the examination of students' learning behaviours. Critics such as Biesta (2008) suggest that a comprehensive study should blend methods such as life-history research, longitudinal interpretative life-course research and longitudinal panel survey research. As indicated in Chapter 3, efforts have been made in the present study to amalgamate different research approaches, including students' diaries in order to tap into students' learning behaviours.

Previous studies also include Hanson *et al.* (2007)'s study which focussed on pharmacists' perceptions of facilitators for and barriers to lifelong learning, in which 274 survey instruments were mailed to the pharmacists. Findings in this study indicated that the top three facilitators for lifelong learning included the personal desire to learn, the requirement to maintain professional licensure, and relaxation provided by learning as a change of pace. By contrast, the top three barriers to lifelong learning included job constraints, location and distance of group learning activities, and family constraints (for example, spouse, children, and personal). The findings further suggested that respondents' broad self-perception of themselves as lifelong learners continued to be highly positive overall but remained less positive relative to specific lifelong learning skills, especially the ability to identify learning objectives and the ability to evaluate learning outcomes. This study, however, was neither conducted in the context of Tanzania nor considered lifelong learning skills development in the context of higher education.

Previous related studies also include Guglielmino (1977) and Oddi (1985) that aimed at developing lifelong learning predictive instruments. The shortcomings with these studies, however, include their focus on only a few lifelong learning constructs, namely, 'self-directedness' and 'continuing education'. A study by Guglielmino (1977, refined 1978), for example, developed a 58-item five-point scale instrument, namely, a *Self-Directed Learning Readiness Scale (SDLRS)*, aimed at measuring the complex attitudes, abilities and characteristics that constitute readiness for engaging in self-directed learning (Bassi & Russ-Eft, 1997). The SDLRS factor analysis by Guglielmino (1977) produced 8 factors, namely, openness to learning opportunities, a self-concept for effective learning, and initiative and independence in learning, informed acceptance of responsibility for one's own learning, a love of learning, a positive orientation to the future, and an ability to use basic study skills and problem-solving skills (Long, 1987, p. 331).

Even though many studies that have used the SDLRS confirm the high reliability and validity of this tool (for example, Long & Agyekum, 1984; McCune & Guglielmino, 1991; Russell, 1988), the use of SDLRS has been criticised in many studies (for example, Bassi & Russ-Eft, 1997; Brockett & Darkenwald, 1985;

Field, 1989, 1991). Critics, for example, indicate that some of the studies that have been using this instrument at doctoral level were based on 'unquestioning acceptance of SDLRS as an accurate measure of self-directed learning' (Field, 1989). Critics indicate that the use of SDLRS is surrounded by considerable confusion relating to a lack of clarity with regard to what is really being measured by this instrument (Bassi & Russ-Eft, 1997; Candy, 1991). Criticisms raised by Fisher *et al.* (2001), for instance, concerned the high cost attached to SLDRS administration and its questionable construct validity. The SLDRS has also been criticised due to the general practical limitations inherent in its use. Given the magnitude of the weaknesses associated with the use of SDRL, some critics (for example, Candy, 1991; Field, 1989) have called for the discontinuation of its use.

A comparable study by Oddi (1984, 1986) also developed a 24-item, 7-point inventory, namely, the *Oddi Continuing Learning Inventory (OCLI)*, that purported to measure lifelong learning. Similar to SDLRS, this instrument was developed to measure the personality characteristics of self-directed and continuing learning. By contrast, however, the OCLI instrument was developed as a criticism of Guglielmino's theoretical base for the SDLRS. Oddi's major concern was about the lack of theoretical foundations for understanding the personality characteristics associated with self-directed, continuing learning (Brockett & Hiemstra, 1991). The OCLI conceptualised self-directed learning as a personality characteristic constituting three overlapping self-directed personalities, namely, (a) a proactive versus a reactive learning drive (that is, internal learners' characteristics such as motivation, persistence, confidence, autonomy and self-efficacy); (b) cognitive openness versus defensiveness (that is, learner adaptability, curiosity, flexibility, receptivity to change and willingness to take risks); and (c) a commitment to learning versus an apathy or aversion to learning (that is, an individual's level of engagement in and enjoyment, love, and active pursuit of learning). Oddi's categorisation was based on the motivational, affective and cognitive attributes of the self-directed continuing learner's personality (Harvey & Frecker, 2006).

Even though studies such as that conducted by Harvey and Frecker (2006) confirm the OCLI's reliability and validity, the instrument has been criticised due

to the inconclusive results found in relation to the factor structure and predictive value (Harvey & Frecker, 2006). Criticisms of OCLI also include the weak theoretical structure from which the three factors emerged, and missing a clear factor structure linkage to the theoretical constructs (Harvey & Frecker, 2006).

Finally, a study by Crick *et al.* (2004) developed a 72-item, self-report questionnaire, namely, an *Effective Lifelong Learning Inventory (ELLI)* that purported to measure lifelong learning. The constructs measured by ELLI include creativity, changing and learning, critical curiosity, meaning-making, strategic awareness, learning relationships, and fragility and dependence. Even though the sub-scales in ELLI suggest that it measures a range of attributes related to lifelong learning, ELLI has been criticised for its omission of some of the central attributes underlying LLL processes such as self-evaluation of learning and students' need for setting personal realistic goals. ELLI has also been challenged for being too inclusive and aiming at too broad an age range from 7 years old to adulthood, assuming that lifelong learning attributes are equally shared across different ages (Kirby *et al.*, 2010). Contrary to suppositions in the ELLI study, several studies have suggested that learning is highly influenced by one's contexts (Vermunt, 1998; Vermunt & Vermetten, 2004). Furthermore, ELLI seemed to be inappropriate for the present study because the instrument is purported to serve as a diagnostic tool for teachers to help them reach informed decisions about intervention programmes that have been implemented. The adoption of this instrument in the present study might have caused difficulties in the prediction of students' LLL skills. Similarly, even though it might be interesting to adapt ELLI, this instrument was basically developed and trialled with younger school-children so that it could not really be replicated in the context of the present study (Crick & Yu, 2008).

In conclusion, the research and the literature on the development of lifelong learning capacity in general does indeed seem to be sparse. This is especially true for studies that focus on the development of undergraduate lifelong learning capacity within a Tanzanian and generally African context. The present study therefore was specifically designed to contribute to advancing debates in this area.

2.9 The theoretical and analytical framework underlying this thesis

Based on the foregoing theoretical and conceptual analysis, it seemed important to develop a particular theoretical framework to facilitate the comprehension and organisation of issues and debates in the present study. Even if the preceding discussion has provided some groundwork and some useful theoretical and conceptual foundations, it still seemed important for the study to develop a holistic framework. The literature review carried out so far has indicated that not all of the conceptual and theoretical perspectives discussed comprehensively address issues in lifelong learning and higher education. It therefore seemed prudent to pick ideas and assumptions from a number of the theoretical works discussed in order to have a holistic framework to facilitate the advancement of arguments, discussions and debates (see, Entwistle, 2009; Illeris, 2009). The analytical framework adopted in the present study was based on a range of tools and frameworks proposed by contemporary thinkers (for example, Bourdieu, 1983; Illeris, 2009; Jarvis, 2006; Lave, 1991; Lave & Wenger, 1991).

As recommended by Reed and Loughran (1988) and Illeris (2009), the analytical framework for investigating a complex and multi-faceted subject like lifelong learning requires the use of different theoretical perspectives. Illeris (2009, p. 6), for example, suggests that the basis for understanding learning should include components such as psychological, biological and social sciences associated with learning (*Figure 2.6*). Illeris (2009) further recommends that the consideration of other factors such as internal and external conditions, and learning structures that affect learning is also important.

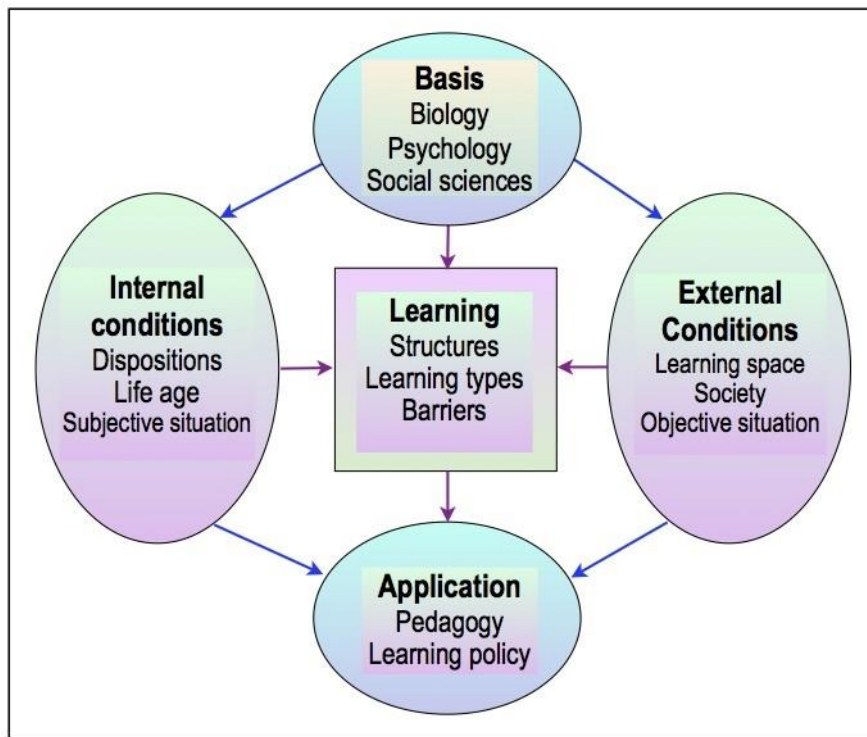


Figure 2.6 Main areas of Understanding learning

Source: Illeris (2009, p. 6)

The above Illeris model for understanding learning suggests the consideration of learning as an embedded process and the need for a proposed analytical framework to take into account ‘all conditions that influence and are influenced by learning’ (p. 6). As suggested in the Illeris (2009) model, it seemed that an understanding of the learning or lifelong learning processes is far from being straight-forward for a researcher to focus on merely a few aspects. As Illeris puts it, most of the prevailing learning theories inadequately explore learning comprehensively since they address only a few of the variables influencing learning (*see, Figure 2.6*).

Drawing on the foregoing analysis, it seemed that any inclusive theoretical framework to be adopted should necessarily take into account a comprehensive view of learning by considering both the contextual and personal variables influencing learning (Biggs, 1988; Entwistle, 1984). On the basis of the foregoing suggestions, Figure 2.7 presents the analytical framework adopted in the present study that seemed to be heuristically appropriate for organising, clarifying and advancing debates and discussions relating to undergraduate students’ development of lifelong learning.

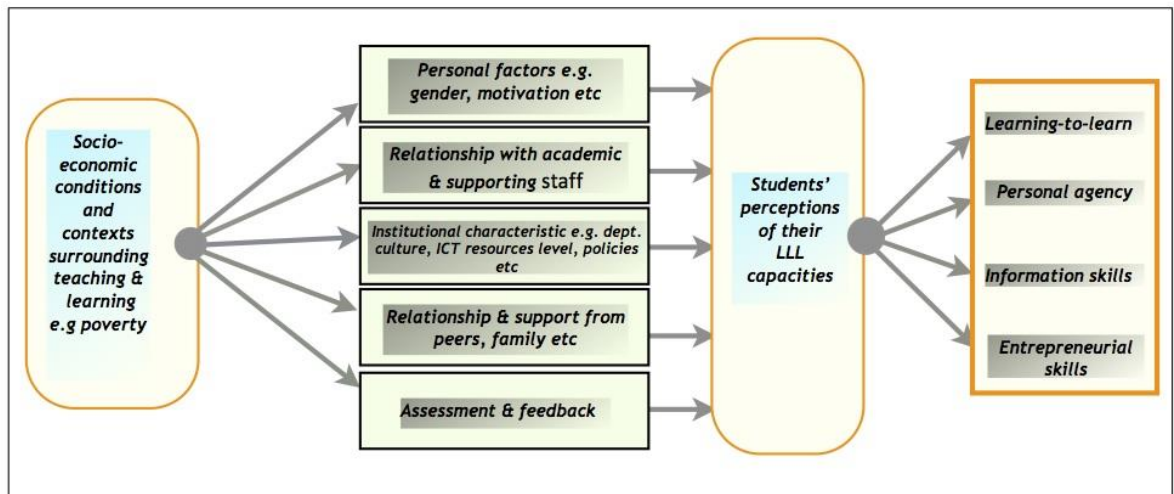


Figure 2.7 Theoretical framework for considering students' development of LLL attributes

Adapted from Tudor *et al.* (2010, p. 72)

The considerations of a possible theoretical framework involved performing a critical appraisal of different models for their suitability for understanding undergraduate students' development of LLL attributes in Tanzania. The criteria used for appraising the different models included the comprehensiveness of the model (adequate descriptions of its constructs), conceptual clarity (explicit descriptions of concepts and associations among them) (Fawcett, 1995), and suitability for the model to be applied in the Tanzanian context. Even though most of the models assessed (for example, Illeris 2009; Brockett & Hiemstra, 1991) seemed to be useful, since they emphasised the importance of considering both the contextual and personal variables influencing learning, the Tudor *et al.* (2010)'s model was selected to underpin the understanding of the study. This was because, unlike other models, the Tudor *et al.* (2010) model seems to highlight many of the key variables that might influence the students' development and perceptions of lifelong learning skills in the Tanzanian context.

Additionally, the Tudor *et al.* (2010) model was chosen to underpin the study because it seemed to provide a basis for considering the students' development of the four LLL constructs within the context of socio-economic conditions. For example, by suggesting the consideration of the complex environment surrounding teaching and learning, the model allows examination of the role of students' socio-economic conditions in influencing their lifelong learning skills.

Just like other developing countries, efforts to improve education and learning in Tanzania face many challenges such as weak social service systems, inadequate human and material resources and inequalities in access to education (Teffara, & Altbach, 2004). The Tanzanian economy is largely agrarian, with approximately 80% of the population being peasants who depend on subsistence agriculture (URT, 2012). According to the Human Development Report (URT, 2005), in spite of different macro-economic reforms, Tanzania remains one of the poorest countries in the world. More than half of the population lives in absolute poverty and 57.8% of the population survives on less than \$1 a day. About 85% of poor people live in rural areas and rely on subsistence agriculture as their main source of income and livelihood. The regional differences in access to resources may contribute to the differences in learning skills development between rural and urban areas.

The Tudor *et al.* (2010) model might also allow consideration of family-related variables that may have implications in understanding students' learning trajectories. In the Tanzanian context, families with high socio-economic status tend to have more opportunities to access support for their schooling and learning. Given their access to a wide range of resources, students from such families often tend to have greater access to high-quality services. Poor families on the other hand, might have inadequate or limited access to resources and services. The inadequacy of resources and their limited access might form one of the negative predictors of students' development of LLL skills in Tanzania.

With regard to gender, as URT (2010b, p. 12) suggests, gender imbalance at the tertiary level has remained one of the major challenges to be addressed. During 2008/09, for example, females represented only 32.1 per cent of the total enrolment in public universities. In Tanzania, even though gender disparity is not significant at lower levels of education, gender imbalance tends to widen at subsequent higher levels of education (Cooksey, 1986; Lugg *et al.*, 2007). Likewise women tend to have lower levels of access to literacy and formal education, compared to men. With regard to the rural-urban dimension, for example, it has been argued that there is a high probability of girls marrying at a younger age and thus stop attending school in rural areas when compared to urban areas (Masanja, 2002; Meena, 1996). Other factors responsible for girls'

dropping out from school include cultural attitudes towards education for girls, pregnancy, and parents having fewer ambitions for girls (Mlama, 2005).

Chapter 3

Research methodology

3 Introduction

The aim in this chapter is to shed light on the research methodology adopted in the present study. The first section outlines the purpose of the study and the main research questions. This is followed by an examination of the research design, the philosophical approach adopted in the present study, and justifications for its adoption; and a consideration of epistemology, and the role of quantitative and qualitative analyses as it relates to the present study. Next, the chapter reports on the operationalisation of the research questions. This includes the composition and recruitment of participants, the sources of primary and secondary data and the design of the instruments including the components of the survey and the development of the interview schedules. The penultimate section examines the analysis of the data and the role of triangulation in mixed methods research. Finally, ethical considerations are discussed.

3.1 The purpose and research questions

As stated earlier, the purpose of the present study was to examine the extent to which individual and institutional factors influence students' development of LLL attributes. Bryman (2001) and Cohen *et al.* (2007) suggest the value of articulating research questions as a critical factor in guaranteeing a researcher's confidence to reach further research decisions. With this in mind, the following three research questions were formulated:-

1. How and to what extent do the national and institutional policy contexts in Tanzania shape and influence the students' development of lifelong learning skills in higher education institutions?

2. Is there a relationship between students' progression in higher education and the increase, decrease or stability in students' mean scores in lifelong learning variables such as 'processing strategies', 'regulation strategies', 'personal agency', 'information skills' and 'entrepreneurial skills'? If yes, to what extent? Or else if not, why is this so?
3. Are there any significant differences in the pattern of development of lifelong learning capacities among undergraduate students in Tanzania in terms of contextual or personal variables such as socio-economic status, age, academic disciplines or other related predictors?

The assumption underlying the study was the likelihood of increased levels in 'learning-to-learn skills', 'personal agency', 'information skills' and 'entrepreneurial skills' being observed as students progressed through higher education. It was further hypothesised that such skills might vary across respondents and across contextual variables due to various theoretical stances. There have been a number of studies suggesting that students might develop lifelong learning attributes as a result of both planned and accidental encounters as they progress through higher education from one level to the next (for example, Brennan *et al.*, 2010; Candy, 2000; Candy *et al.*, 1994; Crebert *et al.*, 2004; De La Harpe & Radloff, 2008). This view is supported by Pascarella & Terenzini (1991, 2005) who suggest that the impact of college is largely determined by both the individual quality of effort and the level of commitment or engagement with academic and non-academic matters.

3.2 The research design

This thesis adopts a case study approach as 'a systematic way of looking at university as 'a bounded system', that is, investigating an entity with distinct units (Mills *et al.*, 2010, p. 66). The case study strategy seemed to be suitable because the study intended to examine the University and its constituent units as a separate case (David, 2006; Stake, 2005; Yin, 1984, 1994, 2003). In addition, it could allow an investigation of the university as a complex unit comprising several other sub-units and levels, including the academic departments, students and lecturers. Understanding the development of lifelong learning attributes in its totality necessarily requires an understanding of many other

related elements and how these various components are linked. Yin (1994, 2003) recommends a case study strategy as an appropriate design for an empirical inquiry aimed at investigating a phenomenon within its real context. Moreover, because the boundaries between the university and the learning processes to be examined and the contextual variables influencing students' learning were both dynamic and fluid, multiple sources of evidence would be required. As a result, it was decided to adopt a mixed methods approach to data collection and analysis.

By gathering data from different levels within the case, this study has tried to develop a 'holistic' approach to research as opposed to dealing with 'isolated factors' (Yin, 2003, p.42). This strategy may also allow an analysis of complex relationships as opposed to a focus on outcomes alone (Hakim, 1987, 2000; Nachmias & Frankfort-Nachmias, 1996; Yin, 2003). By using a case study, it may therefore be possible to gain a full picture of the factors contributing to the development of LLL attributes despite the complexity of the information collected from a wide range of constituent elements 'embedded' within the larger context (Yin, 2003, p. 40). In addition, the adoption of a case study design can offer a substantial flexibility in the use of a variety of data collection techniques such as semi-structured interviews, surveys, documentary review and other types of available secondary data relevant to the study. The use of a case study is also in line with the study aims, namely, to focus investigation more on teaching and learning processes, for which a case study strategy seems appropriate and realistic. By using a case study design, this study is likely to have more opportunities to unravel the complexities associated with teaching and learning processes than if an alternative research design had been adopted.

The longitudinal element in the present study involved collecting data from the same students (within-subjects) at two points of time between December 2010 and March 2012 (approximately a difference of one year). The use of a longitudinal research design was aimed at recording any changes that might have occurred as result of the students' experiences at the university (Menard, 2008; Miller & Brewer, 2003). The longitudinal research design was also adopted in order to ascertain the influence of university education on students' development of LLL attributes in a reliable manner; this could not have been

easily achieved if a cross-sectional design had been adopted. Even though the same research questions could have been addressed using a cross-sectional research strategy, the longitudinal design was nevertheless consciously chosen in order that it could allow the analysis of what is known from other studies as ‘cohort & age effects’²¹ (see, Diggle & Heagel, 2002).

This study was conducted in Tanzania at the main campus of the University of Dar-es-Salaam (UDSM), which is the oldest public university in the country, being established in 1970 and home to 16,610 students (UDSM, 2011). Being Tanzania’s oldest university, UDSM seems to be relatively well established in terms of traditions, infrastructure, structures and policies that could influence students’ adoption of LLL skills. Likewise, being a major source of many innovations in teaching and learning and developments in education and society at large since the 1960’s, the UDSM seemed to provide a particularly interesting test case.

The UDSM was also chosen as a research site because of its commitment to the implementation of a number of reforms (reported in Chapter 1), including the incorporation of entrepreneurial curricular aspects in the undergraduate curriculum and the integration of information literacy into teaching programmes (Cooksey *et al.*, 2003; Mkude & Ishumi, 2004; Nkunya & Ishumi, 2003; UDSM, 2010). Additionally, as a focus of the present study, UDSM seemed to constitute an interesting case in terms of representation and diversity. Most of the students admitted to UDSM are from diverse backgrounds in terms of their school backgrounds, levels of information literacy skills, socio-economic status, and cultural traditions, and the University was likely to represent most of the features found in other public universities within the country, which would in itself allow any findings to be more widely applicable.

3.2.1 Qualitative, quantitative and triangulated approaches

Ontologically, this study is built on the assumption that students’ development of LLL attributes is a socially constructed reality (Lave & Wenger, 1991;

²¹ A term used in empirical studies in the social sciences to describe observed variations over time among individuals who are defined by some shared temporal experience or common life experience.

Vygotsky, 1978). As a socially constructed reality, the development of LLL attributes may be viewed as a collaborative process involving components such as institutional culture, social environment and different national actors (*see Figure 2.7*). Furthermore, this perspective posits that students might develop different or complementary LLL attributes as a result of constant interactions with the social world. The social constructivist approach emphasises the interdependence between social and individual processes in the co-construction of knowledge, suggesting that knowledge is socially constructed between students and the environment in which learning takes place. This study was therefore conceptualised on the basis of an assumption that learning environments are designed to encourage elements such as learner-centredness, the maximisation of student interaction and the use of information resources to support learning.

3.2.1.1 Approaches to Research

Qualitative approaches imply an emphasis on processes that cannot be rigorously examined or measured in terms of quantity or of the amount or intensity of frequencies (Denzin & Lincoln, 1994, p. 4; 2005). Qualitative approaches tend to be inductive in nature since they allow research findings to emerge from the frequent, dominant, or significant themes inherent in raw data (Thomas, 2006, p. 238). They are also said to be more suitable for addressing ‘why’ questions and explaining and understanding issues (that is, ‘how’ questions). In addition, they are said to be typically useful for providing an in-depth understanding of research issues that embrace participants’ perspectives and the context in which they live (Hennink *et al.*, 2011, p. 10). Other commentators, such as Denzin and Lincoln (2013, p. 17), argue that the central focus in qualitative inquiry is obtaining evidence based on multiple ‘truths’ that are socially constructed and provide a ‘value-laden nature of reality’. In qualitative research approaches, ‘researchers tend to focus on a small sample, allowing them to make plausible and coherent explanations of the phenomenon under study’ (Brown & Lloyd, 2001, p. 351). It is also argued that qualitative approaches constitute a useful way for the detailed exploration of a topic in a naturalistic setting (Harwell, 2011).

In contrast, quantitative research approaches attempt to maximise the objectivity, reliability and generalisability of findings. They, moreover, typically

tend to be interested in prediction. Integral to this approach is the expectation that a researcher will set aside his or her experiences, perceptions and biases to ensure objectivity in the conduct of the study and in the conclusions that are drawn (Harwell, 2011, p. 149). The key features of quantitative studies include the use of instruments such as tests or surveys to collect data and the reliance on probability theory to test statistical hypotheses that correspond to research questions of interest.

Quantitative methods tend to be deductive in nature in the sense that inferences from tests of statistical hypotheses lead to general inferences about the characteristics of a population (Harwell, 2011, p.149). Likewise, the emphasis on quantitative studies tends to be on the measurement and analysis of the causal-relationship between variables. A researcher in quantitative studies aims to obtain a large random sample that represents a population with the intention of eliminating individual variation and the ultimate goal is to provide generalisations (Denzin & Lincoln, 2005, 2013).

The debate over the relative virtues of quantitative and qualitative research design in social research has gained considerable impetus in the last few decades (Bryman, 1984). Consequently, there has been a considerable increase in recent years in demands for social research to move away from divergent research approaches, together with an increased emphasis on convergent or mixed methods research. Increasingly a number of scholars have noted the usefulness of integrating research approaches in addressing complex problems and issues in social research (Creswell, 2009; Creswell & Plano, 2007; Johnson *et al.*, 2007; Tashakkori & Teddlie, 1998). Others, such as Hartas (2010, p. 28), view the dichotomy between qualitative and quantitative approaches to be artificial and recommend examining issues with divergent epistemological lenses. It has been further argued that multiplicity and amalgamation in the modes of research inquiry are crucial because of the need to understand the complex social phenomena, the understanding of which requires going beyond sole reliance on one approach. Of interest here is the contribution of Brannen (2005, p. 176), who suggests that the outcome of combining methods is not only the unitary or rounded reality obtained by simply adding together data collected from

different methods but the likelihood to obtain at least the four following outcomes:-

- i. *Corroboration*: the 'same results' are derived from both qualitative and quantitative methods.
- ii. *Elaboration*: the qualitative data analysis exemplifies how the quantitative findings apply in particular cases.
- iii. *Complementarity*: the qualitative and quantitative results differ but together they generate insights.
- iv. *Contradiction*: where qualitative data and quantitative findings conflict.

The expectation in the design of the research in this thesis is that the integration of qualitative and quantitative methods will manifest itself in results that are of forms (i), (ii) and (iii).

As an example, if the researcher seeks a deep understanding of what influences students' development of information skills in higher education, then in addition to quantitative information (for example, scores on the ISS inventory), it would seem prudent to explore qualitatively the individual student's university experiences and perceptions and how these may differ on the basis of demographic or background characteristics. The above has provided some general justification for the use of quantitative and qualitative data in this thesis. The next issue to be considered concerns the sources of data.

3.2.2 Types of data

For the study purposes, both primary and secondary data were used in addressing the specific questions posed by the study. The primary data are considered to be the first-hand evidence obtained directly by the researcher (Vartanian, 2010). Sources of primary data for this thesis were surveys, statistical data and interview transcripts (qualitative). They are explored in more detail below.

Secondary data are those which have already been gathered in the past by someone other than the investigator (Vartanian, 2010). The secondary sources for this thesis were used to address research question 1 and involved both

electronically retrieved sources and archival records accessed through personal contact. These included the University's mission statements, minutes of meetings, annual reports and institutional memoranda. Others included government pronouncements, websites, proceedings and official reports as well as personal documents such as students' copies of essays, grades, personal notes and assignments.

The secondary sources were considered to be important partly because they signify the official 'view' and comprise impartial authoritative data likely to have important implications for the study (Frankfort-Nachmias & Nachmias, 1996; Sarantakos, 2005). Moreover, the use of secondary data in this study could increase the credibility of the research findings obtained from primary data and could be used comparatively in the analysis stage. Secondary sources were seen as necessary to establish the extent to which the university was cultivating a culture of LLL and also to uncover trends, factual information and relationships.

3.2.3 Data collection and instrument design and development

The data collection methods for this thesis can be broadly sub-divided according to their qualitative and quantitative dimensions.

3.2.3.1 Quantitative instruments

The survey used for this thesis was developed as a result of an analysis of previous empirical studies, discussions with experts in the field and a review of the literature (Chapter 2). The survey instrument is provided in *Appendix 'F'*. The connections between the survey items and the constructs investigated in the present study are presented in *Appendix 'A'*. The study adopted two published scales, namely, the *Information Skills Scale (generic version)* (ISS: Catts, 2005), and selected components from the shortened version of the *Inventory of Learning Styles* (ILS: Vermunt, 1994). The reasons for adopting the ILS and ISS scales in the present study included the robustness of the conceptual foundation, and the validity and reliability of the instruments as well as the practical considerations associated with their administration. The use of the ILS and ISS seemed suitable in terms of the cost of their administration and the availability of accurate documentation accompanying the instruments.

Additionally, many studies confirm the ILS to be a reliable and valid measure (for example, Brennan *et al.*, 2010; Busato *et al.*, 1998; Vermetten *et al.*, 1999). Some of the limitations with the ILS, however, include a lack of clarity in the conceptual relationship of scales (Duff *et al.*, 2004). The ILS has also been criticised for a lack of items on motivation which is being seen as a limiting factor in its predictive powers (Coffield *et al.*, 2004). Despite these limitations, however, the instrument was still regarded as having a robust test-retest reliability, ranging from 0.4 to 0.8 over a period of 3 to 6 months (Coffield *et al.*, 2004). Similarly, studies which have used the ISS instrument (Catts, 2005) confirm its adequate content validity, concurrent validity and construct validity. The instrument is seen as a valid and reliable tool appropriate for comparing cohorts of students at similar stages in their higher education experience (Catts, 2007). The comparison of reliability of the instrument between the present study and other studies conducted in a western context is given in Chapter 5.

Altogether the survey instrument comprised 95 question items and was subdivided into five (A -E) different sections, as described below.

Section A: 'Your experience' was about students' life at the university and their future plans including courses studied, funding information and type of accommodation. It addressed the students' perception of selected issues relating to university quality and teaching and learning conditions (*Research question 3*). *Section B: 'Learning motivation'* aimed to measure respondents' 'personal agency', skills and 'learning orientation'. These included the whole domain of students' personal goals, intentions, motives, expectations, attitudes, concerns and doubts with regard to their studies. *Section C: 'Your learning strategies'* measured students' awareness of cognitive processing strategies (thinking activities that students use to process subject matter, for example, deep processing), metacognitive regulation strategies such as self-test or self-regulation and lack of regulation. *Section D: 'Seeking and using information'* aimed to quantify students' competences and skills to recognise when information is needed and their ability to locate, evaluate and use effectively the required information.

Finally *Section E: 'About yourself'* collected demographic data and background characteristics such as age and gender to allow research question 3 in the

present study to be addressed. One open-ended question item was included at the end of the questionnaire to identify additional learning strategies and motives that could not be included in the questionnaire. The ILS and ISS scales and sub-scales and their psychometric properties are reported in more detail in Chapter 5.

After designing the questionnaire, the instrument was piloted on a small number of participants. The first stage of piloting involved an informal run-through of alternative versions of questions with fellow postgraduate international students, for whom English was a second language ($n=12$). The resulting concerns, observations and recommendations were used to make the necessary improvements on such aspects as vocabulary and wording. The second stage involved piloting the final draft of instruments in the field by administering them to a small number of respondents ($n=50$) as a miniature version of the whole survey. The problems identified from the pilot study included difficulties among students in understanding some terminologies used in the original version of the ILS and ISS inventories, revealing the effect of cultural contextual differences (Joy & Kolb, 2008; Marambe *et al.*, 2012). To address some of these issues, the original English version of the questionnaire was translated into the Tanzanian official language (Swahili)²² in order to allow a greater possibility for students to understand all question items and thus to maximise the validity resulting from the probability of obtaining accurate responses. A standardised forward-backward linguistic translation method was used, in which the translated questionnaire is translated back into English by a professional translator who had neither been previously been involved in the study, nor had had any prior knowledge of the objectives of the study or its context. This was to ensure the conceptual and cultural correspondence between the original and translated questionnaire. Further independent verification procedures involved reviewing and refining draft translations in team meetings to agree on the most appropriate translation for difficult terms. Similarly, the final draft was also reviewed by a copy editor, checking for any omissions, incorrect filtering and instructions.

²² Bantu language spoken in Tanzania as an official language.

As reported earlier, the questionnaire was administered in two phases. The first phase of data collection was conducted between December 2010 and January 2011 (one month after they had begun the academic year). In order to boost the response rate, an email reminder (*Appendix 'O'*) was sent to each of the participants who took part in the first phase of the study. The follow-up questionnaire was administered in March 2012 (approximately 11 months after the first phase of surveys) in an attempt to address research question 2, aimed at understanding whether or not changes had occurred as result of higher education. In both the first and the second phases of data collection, the questionnaires were administered in a one-hour lecture session with assistance from lecturers from the respective courses. The completion of the questionnaires took between 45 minutes and 1 hour. The participants were recruited on a voluntary basis and no incentives were offered.

3.2.3.2 Qualitative instruments

To achieve the objective of complementing and cross-checking the findings from the survey and from other secondary data, a series of interviews were held with students, staff and administrators, as outlined below.

Firstly, a series of interviews were conducted with students in two phases concurrent with the two phases of quantitative data collection described above [that is, December, 2010 ($n=23$) and March 2012 ($n=15$)]. Additional semi-structured interviews were carried out during the first phase only with lecturers from the four academic disciplines ($n=26$). The students and staff interviews were designed to help in providing a more in-depth understanding of issues addressed in research question 2 and research question 3, including understanding the issues raised in the preliminary analysis of the survey responses such as, having a clearer and more detailed understanding as to why there were differences in some of the LLL constructs across different academic disciplines. Additionally, the interviews with lecturers *inter alia* were designed to explore current teaching methods and determine attitudes toward supporting the development of students' LLL attributes. The interview schedules for lecturers and students are included in the thesis (see *Appendix 'H'* and *Appendix 'G'* respectively).

Secondly, six (6) interviews were carried out with administrators and officials who hold key positions at the University of Dar-es-Salaam. One (1) interview was carried out with a key official at the Ministry of Education in order to explore the existing institutional teaching and learning practices and identify national policy values associated with lifelong learning. The interviews conducted with the administrators and policy makers were mainly concerned with addressing research question number 1, aimed at establishing the extent to which the institutional and national policies were addressing lifelong learning. Additionally, the interview questions attempted to investigate the policy-related, contextual factors and barriers to the adoption of lifelong learning in Tanzanian higher education institutions. Interview questions developed to guide the conversation are attached to this thesis (*see Appendices 'J', 'K', and 'L'*).

Thirdly, considering that the University's support staff play a major role in providing guidance and advice on learning, three (3) interviews were undertaken with University librarians in order to address elements of research question 1 and research question 3, aimed at exploring the available options to support information resource needs and skills development for students and staff. A copy of the librarians' interview schedule questions is attached to the thesis as *Appendix 'I'*.

Finally, structured self-completion diaries were administered to all interviewed students ($n=23$) in order to collect detailed data on behaviour, events and other contemporaneously experiences related to lifelong learning. The information sought in the diaries included data about formal, informal and non-formal learning and the amount of time spent by students on different kinds of learning activities. A schedule of students' diary questions is attached to the thesis (*Appendix 'M'*). The diary method was also used because it was considered to be a unique and convenient tool for examining students' learning biographies and trajectories as well as the relationship between learning identity and agency in students' lives (see, Biesta, 2008). Its administration in the present study was preceded by a briefing session to explain the diary-keeping procedures and to give further assurances that participants' confidentiality would be guaranteed. The diaries were handed out to students during the first phase of data collection in January 2011 so that they could be returned in March 2013 (a year later).

Unfortunately, however, despite the efforts by the researcher sending frequent reminders to the diarists, there was a very high attrition rate (that is, 90%) and almost all of the 23 diarists either failed to record sufficient information or did not return their diaries. As indicated in the discussion chapter, one of the possible reasons for this high attrition rate might be a lack of interest among the diarists. Consequently, the data from the diaries were not included in the analysis.

All interviews were conducted face-to-face and, prior to interview sessions, participants were assured about confidentiality.²³ In order to familiarise participants with the topic, at the beginning of each interview I introduced myself to the interviewee by stating my name, the sponsoring institutions and the purpose of the study. With exception of the staff interviews, all of the student interviews were carried in the national language of Tanzania (Swahili). All interview sessions took place within the university environment and lasted for approximately one hour. All interviews were recorded using a digital voice recorder with permission from each of the interviewees. In addition, contemporaneous notes were also taken.

As the above sections suggest, triangulation in the context of the present study was conceived as a framework that would allow possibilities for checking every aspect from more than one angle and would have the advantage of different research methods being able to be exploited (Denzin, 1978; McNeill, 1990). Although traditionally the concept of triangulation implies the use of more than one method or source of data, Denzin uses this term more broadly to refer to an approach that uses multiple sources of data, multiple theoretical perspectives, multiple observers and multiple methodologies (Bryman, 2008; Denzin, 1978). As recommended by Denzin (1978), the use of triangulation in the present study implies that the researcher has used multiple methods as well as multiple theoretical and conceptual frameworks to collect and analyse similar data from multiple sources. Using this framework, research participants were recruited from different levels and were requested to reflect on and give responses to similar issues so that a combined perspective on the development of LLL processes might be obtained.

²³ The ethical approval process is detailed later in this chapter

As reported in Chapters 5 and 6, the triangulation procedure in the present study also involved the combination of quantitative and qualitative approaches in the data collection, analysis and interpretation for the purpose of improving and enriching the findings. Some of the alternative ways in which qualitative and quantitative approaches can be combined include (1) using qualitative methods 'to clarify' quantitative findings, (2) using qualitative and quantitative methods 'equally and in parallel', or (3) using quantitative methods to 'qualify' qualitative findings (Steckler *et al.*, 1992). The present study adopted a 'between-methods' approach to data analysis, in which more weight is given to qualitative data in gaining insights in the interpretation of data.

Collectively, the research instruments adopted aimed to build a composite yet comprehensive picture of the existing contextual and individual processes related to students' development of LLL attributes.

3.2.4 The participants

Participants for the present study included students ($n=839$) whose recruitment was primarily on the basis of a cluster sampling strategy based on Becher's (1989) modified classification of Biglan's (1973) six-fold model of classifying academic disciplines. A cohort of first-year students enrolled during 2010/11 academic year ($n=839$) out of whom 26% were female ($n=218$) was recruited from four academic disciplines, namely, 'soft-applied' [Accounting ($n=159$)], 'hard-applied' [Engineering ($n=300$)], 'hard-pure' [Science ($n=29$)] and 'soft-pure' [Sociology ($n=171$)]. The students were drawn from these four theoretically distinct academic disciplines to allow the possibility for a 'comparative inquiry' (Przeworski & Teune, 1994, p. 31). Given the possibilities for unforeseen incidences such as unusable surveys and subjects who might not return surveys that might impact on response rates, the study recruited more subjects than the minimum target (De Vaus, 2001; Hakim, 2000; Pallant, 2007). As reported in Chapter 5, the actual number of participants who completed the surveys on both occasions was 421, that is, 51%.

While it might be interesting for the study to recruit participants from the advanced stages of university education such as the third-year, the 1st year students were recruited because the literature suggests that the first-year

constitutes a crucial period in undergraduate education. It is further argued that the first-year of study is a critical period for laying a platform for future academic accomplishments (Fazey & Fazey, 2001; Goold & Rimmer, 2000; Leamson, 1998; McCune, 2000; Pascarella *et al.*, 1996; Zimmerman & Cleary, 2006). Burton *et al.* (2009) maintain that during the first-year students go through a period of transition, in which they undergo new learning and social experiences.

The other category of respondents recruited were the university administrators and deans from the four academic disciplines ($n=7$), recruited using a purposive sampling strategy. They were recruited in order to address research questions 1 and 3 that aimed to identify how far the disciplines supported LLL. A further reason for their inclusion was due to an assumption that the teaching and learning processes might partly be influenced by the organisational and policy context. Their perspectives toward learning and training seemed to constitute an important factor likely to reveal the institutional commitment and the status of teaching and learning strategies and the prevailing teaching and learning culture in different academic disciplines (Ellingev *et al.*, 1999; Watson, 1999).

Thirdly, the participants included the university lecturers from four academic disciplines ($n=26$), recruited using purposive and convenience sampling procedures. They were included in the sample because of the role they play as mediators of teaching and learning and this is important for understanding lifelong learning processes. As suggested in the literature, university academics play an important role in creating the learning environments through which students might develop lifelong learning skills (Henkin & Persson, 1993; Kane *et al.*, 2002; Trigwell, 2003). Their role in supporting learning has been a recurring theme in the literature (see for instance, Burroughs-Lange, 1996; Trigwell, 2003). Their inclusion in the study might therefore help to understand the role of contextual and pedagogical factors in the development of LLL attributes in students (*Research question 3*).

Finally, in order to address elements of research question 1 and research question 3, the study recruited university librarians ($n=4$) due to the assumption that a meaningful and successful students' learning was a function of dedicated and competent support staff, especially those dealing with information

resources. At the case study university, for example, the library is regarded as ‘the heart of the University’,²⁴ and an integral part of the University’s mission in the areas of teaching and research. Libraries are also regarded in the literature to offer crucial avenues for enabling independent and informal learning as well as providing guidance and advice on learning. Henkin and Persson (1993) and Whitchurch (2004), for example, maintain that libraries are critical agents in encouraging LLL. The inclusion of librarians in the sample therefore could uncover important data related to the support for LLL. Table 3.1 summarises the relationship between instruments and participants in the present study.

Table 3.1 Research participants by research instruments

Primary data collection		
	<i>Phase 1 (N)</i>	<i>Phase 2 (N)</i>
Quantitative Survey		
Accounting Students	159	326
Engineering Students	300	252
Science Students	209	157
Sociology Students	171	178
Qualitative interviews		
Accounting Students	7	4
Engineering Students	5	3
Science Students	5	4
Sociology Students	6	4
Lecturers	26	-
Administration	3	-
Deans	4	-
Library	2	-
Diaries		
Accounting Students	7	-
Engineering Students	5	-
Science Students	5	-
Sociology Students	6	-
Secondary data collection		
Literature	For example, Tanzanian Education & Training policy, 1995	
Websites	For example, www.udsm.ac.tz	

²⁴ University library website, <http://library.udsm.ac.tz/index.php>

As can be seen in Table 3.1 more accounting and sociology students returned questionnaires in the second phase. This is because in the first phase, questionnaires were distributed in the optional courses and in core courses in the second phase. The researcher had no access to the full cohort in the first phase but had access to the full cohort in the second phase of data collection. Only the matched cohorts were included in the analysis.

3.3 Data Analysis

The analysis of data in this study involved a rigorous examination of both the secondary and primary data collected throughout the study, adhering to a concurrent mixed methods approach, in which the evidence from both qualitative and quantitative approaches was used. The procedure followed in addressing the study research questions is described below.

3.3.1 Examining the national and institutional policies influencing LLL

The analysis of this research question was performed at two levels. First, the analysis was on the basis of secondary data adhering to a conventional analysis strategy in which the documents of interest were manually analysed, concept maps were generated for each document and the key themes and relationships were identified (Hsieh & Shannon, 2005). The second level of analysis involved examining the policy makers' interview transcripts, as explained later in this section.

3.3.2 Examining the relationship between students' progression in HE and an increase, a decrease or a stability in their LLL skills

To assess the influence of undergraduate education on students' development of LLL skills, the *t-test* statistic (paired sample) was used to test the hypotheses with regard to variability and consistency of mean scores on the dependent variables between year 1 and year 2. Additionally, the qualitative analysis attempted to comprehend the reasons for consistency or variability in the quantitative results.

3.3.3 Assessing the personal and contextual variables influencing students' development of LLL skills

In order to study the extent to which LLL constructs such as metacognitive regulation strategies varied across personal and contextual factors, both the *t-test* and MANOVA test statistics were performed. The *t-test* was used to identify the extent to which students differed by gender and age. Again, the qualitative findings were used for an in-depth exploration of the quantitative results.

The preliminary statistical analysis of the survey data involved a screening of the data using uni-variate and multi-variate test statistics and frequency distributions (Tabachnick & Fidell, 2000). The data screening process included running descriptive test statistics for all the variables. One of the reasons for data screening was to identify issues such as normality, missing data, and the potential for multi-variate outliers in the data. This is because multi-variate tests are sensitive to extremely high correlations among predictor variables. Descriptive statistics for the survey items are summarised in this study and reported in tabular form in Chapter 5.

With regard to the qualitative analysis, as is the case with almost all interpretive studies, the qualitative analysis started as soon as the data collection began and continued throughout the research. The first phase involved on-going data analysis during the data collection process, in which key aspects or themes were identified and then progressively narrowed down and focused on (Gay & Irasian, 2003). This procedure involved recording interviews verbatim using a digital voice recorder and transcribing interviews with the help of transcription software. This phase involved gathering, examining and comparing the data collected prior to the collection of newer data. It also involved writing field notes and memos from which reflective ideas and insights about issues that were emerging during data collection were collected. These memos were included as additional sources of data in the second phase of analysis.

The second phase of the analysis commenced with reading through transcriptions in order to gain overall views and impressions and to then apply the insights gained from the field to make sense of what the participants' descriptions meant. As a general principle recommended by Bogdan and Biklen (1998), the

second phase of analysis involved organising, categorising, synthesising, interpreting and writing about the data. The processes in this phase involved careful proofreading of each transcription to ensure accuracy with the actual audio record and also making any necessary corrections. The QSR NVIVO version 9 software package was used to support and enhance the analysis process and aid the researcher in the analysis of complex relationships in the data. The software also proved useful in classifying, sorting information and combining subtle analyses with identified trends (Bazeley, 2007; Schutt, 2006).

The subsequent analysis procedures conformed to the framework recommended by Di Gregorio (2000, p. 2) involving activities such as:

‘reading and reflecting, interacting with the literature/data and commenting on it, identifying key themes and coding them, extracting from the codes ‘gold dust quotes’ to be used when writing-up.’

The procedure also involved:

‘linking similar ideas from different transcripts; identifying contradictions in arguments; comparing dissimilarities in transcripts; building one’s own argument/analysis with links to supporting evidence in the data’ (Di Gregorio 2000, p.2).

This stage was followed by re-reading and re-examining the transcriptions in order to extract meaning and to develop an overall understanding of all the experiences. Next, the key themes (meaningful analytical units) or statements pertinent to the research questions were identified and coded. Lastly, the codes were compared and grouped to form categories, which were then further developed or collapsed as the analysis progressed.

With regard to the documentary data, the analysis was based on strategies outlined in the literature (for example, Bryman, 2008; Frankfort-Nachmias & Nacmias, 1996). The steps followed involved becoming familiar with the context in which the documents were generated, analysing data on the basis of the categories formulated and searching for and distilling the underlying themes and categories for peculiar characteristics, attributes and trends (Sarantakos, 2005, p. 295). It also involved the comparison of documents to investigate trends and practices over time.

3.3.4 Credibility & dependability of the qualitative findings

In comparison to quantitative studies, the issue of validity in qualitative research mainly depends on aspects such as authenticity, credibility and criticality (Guba & Lincoln, 1994; Johnson, 1999). The researcher took various steps in this study to ensure the rigour and validity of the qualitative research and be certain that a true picture of the phenomena studied emerged. Some of the steps taken included conducting interviews in person, triangulating the findings and giving differing interpretations on a particular phenomenon. To ensure the integrity and confirmability of the findings, for example, participants' thick descriptions were presented and all issues were interpreted on the basis of the data. Additionally, one of the interviews was conducted with the participation of one of my Supervisors, to ensure that the data collected were plausible, thereby maximising the elements of credibility, dependability, authenticity and validity in the findings of this research.

3.4 Ethical considerations

Ethical considerations are fundamental to any study in order to ensure that the research process and the findings are trustworthy and valid (Hesse-Biber & Lina, 2011, p. 60). In this thesis, the ethical considerations were strictly maintained as a critical part of the research process from the inception of the task to be undertaken to the interpretation and publishing of the actual research findings. The research proposal and the research instruments for this research were subject to a review process and to approval by the College of Social Science Research Ethics Committee of the University of Glasgow. Confidentiality was maintained through the protection of the privacy of the selected participants by not revealing their identity. Permission to undertake this study was sought from the University authorities and the information accessed was kept confidential. The data stored in the computer was linked to a secret password, to which only the researcher had access, and the study avoided divulging the exact identity of respondents when reporting the results.

To assist participants reach a reasoned judgment on whether or not they wanted to take part in the research, clear information about the research was given in a plain language statement (*Appendix 'N'*). However, to reduce the chances of

confusion and distraction or of overwhelming participants and undermining the validity of the research, the researcher deliberately avoided giving detailed technical information. The briefing session involved informing participants about the purpose of the study, giving descriptions about how they had been selected, explaining the use to which the data might be put, outlining the basic research procedures, giving the identity of the researcher and the sponsor and also explaining the benefits of the study (De Vaus, 2001). As for voluntary participation, participants were informed about their freedom to participate and option to withdraw at any time or to decline to answer any of the question items. However, the researcher also encouraged them to participate by stressing the altruistic value of the study to the higher education institutions and to society at large. Additionally, to enlist participants' self-interest the researcher made a commitment to give a summary of the findings to the heads of academic departments upon completion of the study.

3.5 Summary

This chapter has outlined the research design adopted in an attempt to address the three research questions and to get a better understanding of the students' development of LLL attributes. Secondly, the research site location at the university of Dar-es-Salaam in Tanzania was described and justified. The methods and processes of data collection were then discussed relating to the individual collection of the student survey, the semi-structured interview and the documentary data. Finally, the data collection procedure, the participants, the analysis procedures and the ethical principles involved were discussed.

Chapter 4

Higher education & lifelong learning policy context and influence

4 Introduction

This chapter examines the policy environment influencing higher education and lifelong learning in Tanzania. It particularly focuses on the following three purposes: firstly, to introduce the analysis procedures followed and to address conceptual issues underlying policies; secondly, to examine the context and policy trends in the higher education and lifelong learning sector, thereby examining policy content and relevance; thirdly and lastly, to examine higher education institutional policy consistencies and strengths as well as contradictions in relation to students' development of LLL attributes.

4.1 The concept of policy and rationale underlying the examination of educational policy in the present study

The concept of policy is central to this study for understanding patterns, trends and issues in higher education and lifelong learning because policies have implications for almost everything that happens on the ground (Doherty, 2011; Dunn, 1994; Ramsden & Martin, 1996; William, 2008, p. 300). In an attempt to avoid confusions in the present study, the preliminary sections of this chapter concentrate on providing some elucidation of the concept of policy at the outset. As the examples below suggest, as a general concept, policy has many connotations and it lacks a universally accepted definition (Dearlove, 1993; Rough, 1984).

A policy may be referred to as 'the sum total of government action, from signals of intent to the final outcomes' (Cairney, 2012, p. 4). It also refers to the implicit or explicit purposive course of action that is followed when dealing with a particular problem or a matter of concern (Dearlove, 1993). Sapru (2004, p. 5) suggests that a policy can be 'general or specific, broad or narrow, simple or complex, public or private, written or unwritten, explicit or implicit,

discretionary or detailed, qualitative or quantitative'. The definitions above suggest that a policy is usually associated with the accomplishment of a desired goal or a set of goals followed by some particular actions. From the institutional point of view, however, a policy may also be conceived as a course of action comprising aspects such as statutes, procedures, rules and regulations adopted in order to achieve a set of goals (Simonson, 2007). Having looked at the general notion of policy, in the context of the present study, policy was conceptualised on the basis of the framework of Marzotto *et al.* (2000, p. 1) which suggests that: -

'a policy is an intentional course of action followed by a government institution or officials to resolve an issue of public concern. Such a course of action must be manifested in laws, public statements, official regulations, and publicly visible patterns of government behaviour'

The above definition seems to be robust because it links policies to purposive or goal-oriented undertakings aimed at resolving a problem (in the case of this study the integration of LLL into higher education) rather than random incidents. This definition also appears to be a good one because it emphasises what government essentially does rather than what is being said by government about what it intends to do.

Understanding LLL and higher education policy contexts seemed to be essential to the present study for many reasons. Firstly, there is evidence in the literature to suggest the importance of policies as images of official proclamations, intentions and goals such that its examination is likely to reveal the value and emphasis placed on higher education and LLL in Tanzania (cf. Dearlove, 1993). The examination of policies could also allow an understanding of structures and patterns associated with higher education and LLL provisions. Additionally, the examination of policies could also allow an understanding of the frameworks underlying the operation of LLL and the different methods adopted (Berge, 1998).

Hodgson (2000) and Preece (2011) consider the examination of policies to be of particular importance within the context of lifelong learning because learning in adulthood itself is largely affected by political and social contexts embedded

within policies. By analysing national and institutional policies, the commitments to and intentions towards lifelong learning could thus become clearer. The significance of examining policies within the context of lifelong learning is also emphasised by Schuller and Field (2002), who suggest that the examination of policies is important because different countries and institutions tend to promote distinctive models of lifelong learning. This perspective is also maintained by Coffield (2000b) who recommends the examination of policies so as to understand the different visions of LLL promoted by different policies. It was thus deemed imperative within this study to understand higher education and lifelong learning vision and policies within the context of Tanzania.

4.2 Research questions

The research questions guiding the analysis of contextual factors of policy in this chapter focused on understanding the extent to which the policy contexts shaped and influenced the integration of lifelong learning into Tanzanian higher education institutions. The study also aimed to establish whether or not the prevailing policy environment adequately addressed issues related to students' development of lifelong learning attributes in higher education institutions, and to understand the possible effect of such policies (if any).

4.3 A framework for analysing policies

The analysis of higher education and lifelong learning policy dynamics in the present study was informed by Molle's (2007) model, which recommends analysis based on the contemplation of the wider contexts in which policies exist in order to comprehend policy dynamics (*Figure 4.1*). Molle's framework seems to be reliable and robust because it permits an understanding of different issues embedded in policies. Its use might help in understanding the relevance of the policy, policy effectiveness, policy efficiency, impacts and policy success.

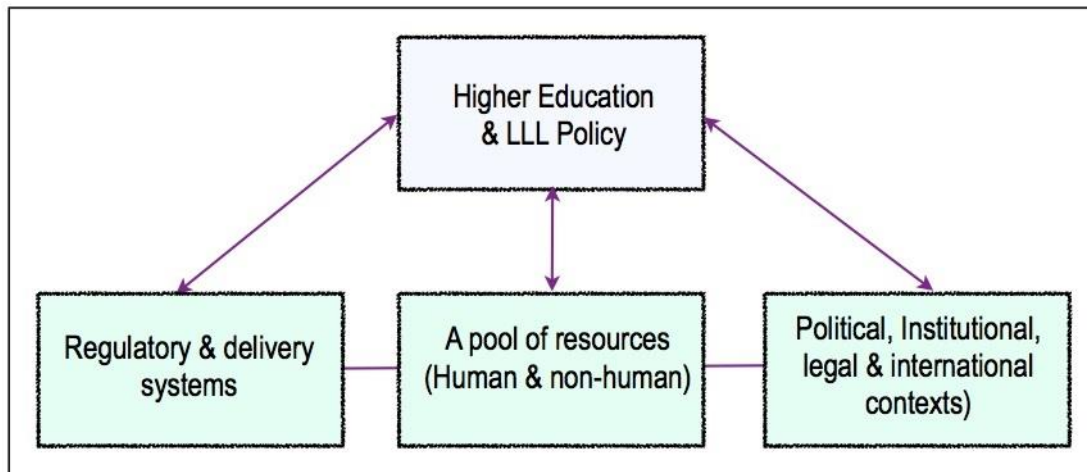


Figure 4.1 Contexts impinging on lifelong learning & higher education policy

Adapted from *Molle (2007, p.128)*

Molle's (2007) model suggests that the understanding of higher education and LLL policy implies the consideration of different contexts in which the policy exists, including the political, international and legal settings. As stated earlier, this model seems to be robust since it can aid understanding the role of the state and other agencies, supporting and regulating different higher education and lifelong learning initiatives (for example, the UDSM quality assessment and improvement initiative, UDSM, 2007b). On the basis of this framework, the operationalisation of higher education and LLL policy could also be considered in the context of the various inputs and resource requirements. In addition, this model might allow a comprehensive examination of policies in Tanzania because it suggests the consideration of a country's regulatory frameworks and delivery systems. Its use might also allow an understanding of the policy structures underlying the provision and support of formal, informal and non-formal learning systems. Apart from taking into account different contexts, this model considers several other factors related to policy so that it might ultimately help to explain higher education and LLL policy in a more inclusive manner.

A recent study by Cloete *et al.* (2011) adopted a similar approach to policy analysis, namely, a holistic, analytical approach in which three interrelated factors influencing universities were taken into account. The three factors are:

- the nature of the pact between the universities, political authorities and society at large;
- the nature, size and continuity of the university's academic core; and

- the level of coordination, the effectiveness of implementation, and connectedness to the larger policy context of universities.

In this framework, the higher education system can be influenced by local circumstances such as the nature of the economy of a country and its political and governance traditions and culture. Other factors to be considered include institutional characteristics such as the 'loosely-coupled' nature of higher education institutions and the external relations of universities, especially with national authorities, foreign agencies and industry (Cloete *et al.*, 2011, p. 5).

4.4 Procedures

As reported earlier in Chapter 3, data for this chapter were largely obtained from the document review. As one of the means for 'corroborating and augmenting evidence from different sources' (Yin, 2003, p.199), the document review was used to ascertain the extent to which students' development of life LLL skills was reflected in policy documents. Relevant documents, which were associated with higher education and LLL, were identified throughout the research process. The review procedure involved a systematic search for documents and a careful evaluation and interpretation of the various sources that were available in different formats, both printed and electronic. The analysis involved both a descriptive and a critical examination of all documents related to higher education and lifelong learning and formulated since Tanzanian independence in 1961.

The examination of these documents involved content analysis, in which the relevant information was organised into categories according to the central research questions (Bowen, 2009). A conventional analysis strategy was used to achieve a systematic review, in which the documents of interest are manually analysed, concept maps are generated for each document, and the key themes and relationships are identified (Hsieh & Shannon, 2005). The critical analysis of policy content was based on a framework proposed by Codd (1988), in which the researcher examines the values, assumptions and ideologies underpinning a particular policy.

Additional data were obtained from interview schedules conducted with elite policy-makers and institutional administrators ($n=7$). The remainder of this chapter presents findings emerging from the analysis.

4.5 Tanzanian higher education sector context analysis

As noted earlier in Chapter 1, education in Tanzania is defined as ‘a process of initiating and preparing an individual through training in his environment to play an active role in society’, and the government plays a great role in the development and provision of education (URT, 1995, p. vii). The objective of education and training within this context is ‘to impart the knowledge and skills necessary to enable members of the society to contribute to the socio-economic development of their communities, and ultimately that of their country’ (Mwamila & Diyamett, 2008, p. 10).

The major research question addressed in this section concerned examining the effectiveness of the structure of education in Tanzania in providing LLL opportunities. Given that the promotion of graduates’ LLL skills in higher education is not only a function of formal and compulsory school settings but also the result of a vibrant interaction of structures and agencies, it seemed important for the study to examine the education system structure in Tanzania (Torres, 2009). The interaction among different structures seemed to be crucial in allowing a variety of institutions and agencies to work together in providing all possible LLL opportunities through formal, informal, traditional and other innovative ways, in a ‘co-investment’ fashion (see, Aspin *et al.*, 2001, p. xxii). As Aspin *et al.*, (2001, p.xxii) suggest, an effective LLL system is;

‘a function of networked institutions that offer similar, different and overlapping educational opportunities. Key institutions, for example, include trade unions, local authorities, colleges, distance education, vocational education programs, schools and hospitals that work separately, contributing in a flexibly interactive manner to each other without duplication or redundancy’

This suggests that the Tanzanian educational and training system in this context needs to allow the interaction of different structures in order to offer maximum LLL options and opportunities.

The documentary review suggested that the educational system in Tanzania is predominantly formal, academic and hierarchically-structured running right from primary school to tertiary level (Figure 4.2). The education provision is based on a 2-7-4-2-3+ system comprising 2 years of pre-primary education, 7 years of primary education (Standard I-VII), 4 years of secondary ordinary level education (Form 1-4), 2 years of secondary advanced level education (Form 5 and 6) and 3 or more years for technical or higher education. The official school attendance age in Tanzania ranges from 5-6 for pre-primary, 7-13 for primary, 14-17 for lower secondary, 18-19 for upper secondary and 20-24 for university education [BEST²⁵ (URT, 2010a, p. v)].

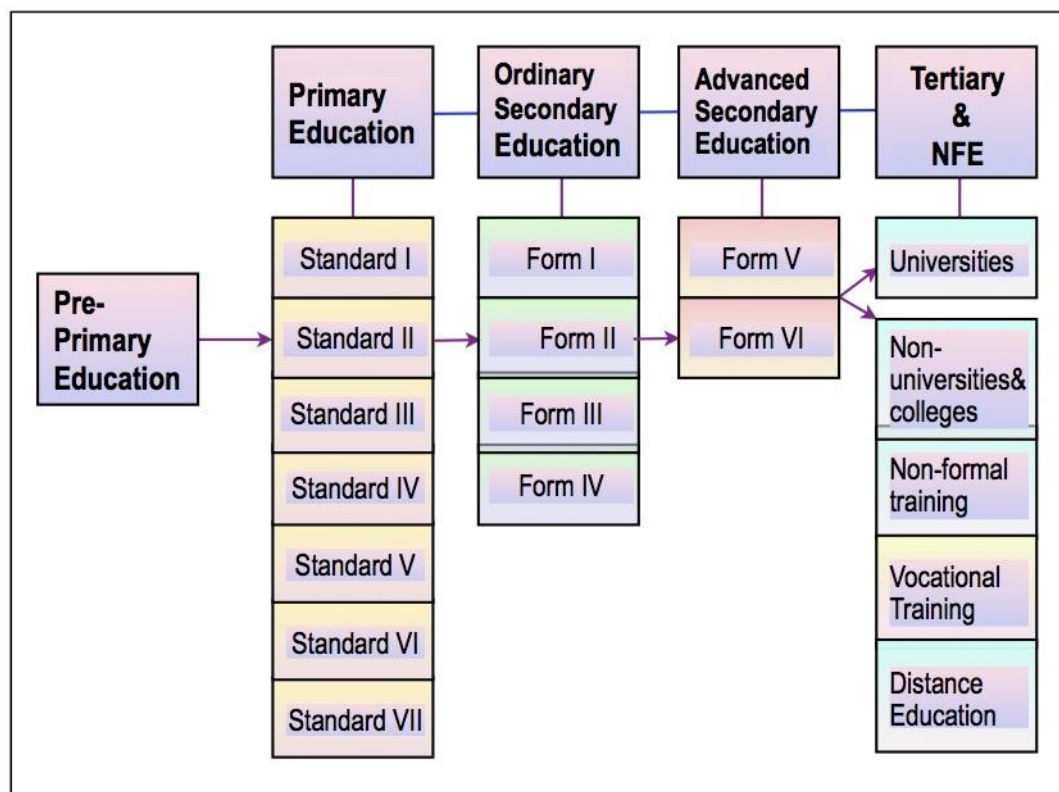


Figure 4.2 The Tanzanian Education System

Adapted from Kitta, (2004, p. 14)

Even though institutions, such as the vocational training centres, the Institute of Adult Education (IAE), and the Open University of Tanzania (OUT), exist in the country as a means for the provision of non-formal education, much emphasis in terms of resources and recognition seems to be placed on formal education. The existing non-formal institutions are mainly concerned with offering programmes

²⁵ Short form for Basic Education Statistics in Tanzania

such as adult literacy training programmes, vocational education training and community education programmes. Few of these institutions, apart from mainly the OUT, are concerned with the provision of tertiary distance education. As compared with formal education systems, most of the non-formal education structures in Tanzania appear to be less coordinated and less organised. Such programmes are also less well-funded and are not given equal attention and status as formal education and qualifications are. The findings further suggested that even though the non-formal structures exist in Tanzania, the majority of government official documents tend to treat the formal education system and qualifications as superior to the non-formal education system. Critics such as Bhalalusesa (2003, p. 52) note that the official reports such as the country's EFA Assessment Report (URT, 2000), in which the major government decisions and actions undertaken since the World Conference on EFA are reported, tend to put more emphasis on primary education rather than on adult education. Bhalalusesa (2003) noted that adult education is mentioned only in passing as part of basic education. Similarly, it has been further argued that in terms of investment in EFA the report does not show how much was allocated and spent on adult basic education. As Bhalalusesa (2003, p. 52) suggests, further marginalisation of non-formal education within the education system includes the reforms made at the Ministry of Education, in which the adult education sector that used to form an independent directorate with its own budget was reduced to a mere unit. Comparable observations are also maintained by Hoppers (2006, p. 93), who notes that the relationship between formal education (FE) and non-formal education (NFE) remains 'fluid, dynamic and often problematic and curtails the provision of a wider diversity of education forms, each of which can have its own place'. Given this tendency, the non-formal education sector in Tanzania seems to be treated as an entity separate from the educational system. The consideration of formal education as a separate entity with a different structure has been one of the main sources for the polarisation of education provision between the formal and non-formal educational systems (Mushi, 2009). Consequently, there has been a trend towards a diminution of the role of non-formal and informal educational agencies in the country because of under-funding and poor governance (Galabawa, 1990; Mushi, 2009; Urch, 1989).

4.5.1 Legal framework underlying higher education and lifelong learning in Tanzania

As the framework of Molle (2007) suggests (*Figure 4.1*), the country's legal context is crucial in determining the success of higher education and LLL policy. Preece (2011) and the World Bank (2000) propose an examination of the legal framework underlying higher education and LLL policy because the successful implementation of policy is a function of the existence of a supportive national legal context. Preece (2011, p.101) maintains that 'the notion of learning adulthood in itself is affected by legal contexts'. The appropriate legal infrastructure is also regarded as a basis for safeguarding access and quality (Hodgson, 2000).

The content analysis performed in relation to the Tanzanian legal context revealed that even though some improvements might be needed to boost provision, no new education legislation is necessary for the successful adoption of the LLL paradigm. The present Education Act no. 25 of 1978 (*amended in 1995*) still seemed to provide satisfactory basic legislation for the provision of lifelong learning opportunities in the country. Some important provisions in this act include some elucidation about the role and powers of different agencies responsible for education in the country. The analysis also showed that, through the 1978 Education Act, primary school enrolment and attendance in the country was made compulsory for children aged 7 to 13 years. Other legal enactments aimed at regulating the educational provision and training in the country since independence in 1961 include the 1974 Universal Primary Education (UPE) and the 1974 Musoma resolution ²⁶, both introduced as measures for increasing primary educational access.

Substantial educational reforms were also made by a Presidential Commission, appointed in 1981, to review the country's entire education system and suggest changes to be realised by 2000. The commission *inter alia* reviewed components

²⁶ A resolution made in Musoma, Tanzania in November, 1974 which set the year 1977 as the target for the realisation of universal basic education for all (UPE) in Tanzania. Although UPE had nothing to do with higher education, the 1974 Musoma Resolution is regarded as the first affirmative action that resulted in an increase in female enrolment in higher education in Tanzania, as women were exempted from certain admission requirements, (see Lihamba *et al.*, 2006).

such as curriculum development, the administrative structure, equipment, and teaching and learning materials. One of the critical observations noted by the committee concerned the deficiencies in the Tanzanian educational system at most levels and the inability of education provision to meet the national workforce requirements. Consequently, the committee recommended that the government should take measures to expand higher education so that it could meet national manpower needs (Urch, 1989, p. 226).

Further educational reforms were based on recommendations by a subsequent taskforce, established in 1990, to review the country's education status and to propose a suitable education system for the 21st century. As a result of the taskforce's recommendations, the prevailing national policy for science and technology was formulated, and new packages and curricula at different levels of education were formulated (Kitta, 2004, p. 13). The outcomes of the taskforce recommendations also included the formulation of the current Tanzanian Education and Training Policy (ETP, 1995)²⁷. Relevant educational legislation also included the Education Act No. 10 of 1995, Section 64, and the Universities Act No. 7 of July 2005 through which universities were mandated to provide the nation with trained human resources for development and wellbeing so as to transform the country from the prevailing low income status to a mid-income one. Through the same legislation, higher education institutions in the country were required to have charters of incorporation, through which they could run and manage education and training.

4.6 Trends in Tanzanian higher education policy

The present study also analysed the trends that have affected the Tanzanian higher educational policy since independence (*Table 4.1*). This review of policy trends was aimed at more comprehensively appreciating the issues and implications in students' development of LLL attributes. Such a review of higher educational policy trends seemed to be important in order to understand the contemporary patterns and implications in higher education (Brooks, 1991). Such an analysis also seemed to be important in understanding the extent to which policies in Tanzania consistently promoted students' development of LLL

²⁷ The ETP is the prevailing policy document guiding the education and training provision in the country.

attributes in higher education. Similarly, within the context of African countries, an analysis of the effect of historical context is important in understanding higher education and LLL policies (Preece, 2009a, 2009b). Table 4.1 summarises the major trends and key reforms carried out as a result of Tanzanian higher education policy since independence.

Table 4.1 Key educational policies and trends in educational reforms in Tanzania since independence (1961)

Phase	Global Policy	National policy	Key Theme	Results
<i>Phase I</i> 1961-1966 (early independence)	UPE (UNESCO)	National Development Plan Musoma resolution Presidential official speeches	Africanisation, abolition of racial disintegration	Increased access to education by Africans
<i>Phase II</i> 1967-mid-1980's	Adult literacy Child centred education	Education for Self-Reliance ²⁸ (ESR) Arusha Declaration ²⁹ 1970 Adult education year	Characterised by strong state intervention in education. High community mobilization (<i>Ujamaa</i>). Low civil society group participation; top-down self-help schemes; expansion of collective national thought, education as an instrument for efficiency	Increased participation and access; internal efficiency quality; increased spending
<i>Phase III</i> Mid-1980's - mid-1990's	Education For All IMF/WB Monetary policies	Higher Education Cost-sharing Neo-liberalisation Privatisation of higher education	Liberalisation; private school ownership; reduced supervision of government in education; SAPs; cost-sharing and user fees introduced; reduced role of Government in education and education as an instrument for efficiency	Falling/declining participation and access; low internal efficiency; declining educational spending; low quality of provision and product
<i>Phase IV</i> Late 1990's to date	Globalisation	Tanzania Development vision 2025 Education and Training Policy, National Higher education policy	Civil and institutional financial reforms; educational sector development programme; education as an instrument for economic and qualitative change	Increasing participation and access

²⁸ The Education for Self Reliance (ESR) is the educational policy that dominated educational reforms and provisions in Tanzania from 1967 to 1978 with a major focus on education as a means to bring about social transformation in society through hard work and cooperation.

²⁹ A political statement issued in 1967 in Arusha (Tanzania), aimed at setting out the main guidelines for making Tanzania a socialist and self-reliant nation.

As shown in Table 4.1, four phases of policy formulation seemed to be specifically relevant to the Tanzanian context, namely, (1) *early independence*, (2) *1967 to mid-1980's*, (3) *mid-1980's to mid-1990's*, and (4) *mid-1990's to date*. The key LLL and higher education policy trends are discussed further below.

4.6.1 Phase One: early independence

As depicted in Table 4.1 above, the first phase of higher education and lifelong learning policy development in Tanzania can be traced from the early years of independence, 1961-66, but the origin of formal education in Tanzania is in fact associated with the arrival of Christian missionaries and the establishment of elementary schools in 1870 (Mushi, 2009). However, the majority of early pre-independence educational efforts had an insignificant impact due to the limited access to and unequal distribution of education opportunities that were offered on the basis of race, region and gender. Until 1947, for example, fewer than 10% of the school-age population were enrolled in primary school, and under 1% were enrolled in secondary schools (Al-Samarrai & Peasgood, 1998). The administrative system during colonial rule allowed only a minority of students to enjoy university education through overseas scholarships, and higher education and a lifelong learning policy were almost non-existent (Ishumi & Mallyamkono, 1995, p. 49). This is because the educational policy during this era was largely designed in favour of the interests of the colonial masters, offering tertiary education qualifications to a very small number of citizens to match the limited colonial manpower requirements. As a consequence of this set of policies, at independence in 1961, illiteracy rates were very high among Tanzanians³⁰, and the country inherited a very small, hierarchically structured education system. Some researchers estimate that as a result of the effects of colonial policies, until 1980 less than 3% of the eligible secondary education population could have secondary schooling (Altbach, 2007, p. 203). Less detailed statistical data are available for higher education student enrolment during this era.

Analysis also suggests that almost all of the educational policies during this era were not developed from a perspective of LLL in the sense of learner-

³⁰ At independence in 1961, approximately 85% of the population could not read, write or do simple arithmetic, and by 1967, the national illiteracy rate was 71.9% (Mushi, 2009).

centredness for the policies mainly focused only on bookish theoretical learning for the elite. Subsequently, after independence, most of the early educational policies were aimed at addressing challenges such as massive poverty and enormous ignorance arising from the aftermath of colonial rule.

Given the acute shortage of qualified staff emerging from the aftermath of years of colonial dominance, most of the government educational policy efforts during the initial years of independence had to focus on expanding access to basic education and on preparing the workforce (Samoff, 1987). As the URT (1995, p. i) indicates, in 1962 the government enacted an Education Act to repeal and replace the 1927 colonial segregated Education Act. The new act was aimed at regulating several matters relating to educational provision in the country *inter alia*, making Kiswahili the medium of instruction in schools, along with English and introducing a racial integration system in education (Kitta, 2004).

As a direct result of the effects of colonial dominion in Tanzania, the policy emphasis during the first phase of education policy development focused on the expansion of basic education and on efforts to eradicate the enormous illiteracy to meet the massive educational needs. Few efforts were expended on promoting secondary and post-secondary education (Brown & Brown, 1995; Ishumi & Mallyamkono, 1995).

4.6.2 Phase Two: 1967 – mid-1980's [*Education for Self-Reliance (ESR)*]

The major feature characterising the second phase of higher education and LLL policy in Tanzania was the adoption of the philosophy of *Socialism and Self-Reliance* in early 1967. During this phase, the government issued a major paper on education, namely, the *Education for Self-Reliance* policy (ESR), which became the major basis for all educational changes and reforms in Tanzania. As a result of this policy, since 1967 a substantial number of policy reforms have been introduced aiming at transforming the education system to make it more relevant to the country's needs. Kitta (2004) notes that the major policy reforms made at this time included a shift in curricular emphasis from theory to the integration of theory with practice. The newly introduced educational policy was also designed to integrate educational values with work experience and to

prepare students to work productively in rural areas rather than make them aspire to white-collar jobs (Nyerere, 1968, pp. 72 -73; see also Urch, 1989; Wedgwood, 2007). The policy sought to make recipients of basic education independent and creative thinkers and to enhance rural livelihoods rather than preparing them for further academic advancement.

As noted in Chapter 1, the major emphasis of the ESR policy was on basic education rather than on higher education, and the policy was aimed at producing only a limited number of graduates to match the country's need for civil servants (Cooksey, 1986; Wedgwood, 2007). It also emphasised the provision of adult education and adult literacy skills in that the year 1970 was declared an 'adult education year' and the government stated that: -

'First we must educate adults. Our children will not have an impact on our economic development for five, or even twenty, years. The attitudes of adults on the other hand have an impact now. The people must understand the plans for development of this country; they must be able to participate in changes which are necessary' (Nyerere, 1973, pp. 137 -141).

The above policy extract suggests the government was focused on adult education and continuing education rather than on the higher education dimension of lifelong learning during the second phase of its education policy. Even though the focus on adult education during this phase might have been necessitated by resource limitations and the realities of the time, the weaknesses of this policy approach included overlooking the learning needs of other age groups in society. Additionally, despite the educational policy emphasis on continuing education during this phase, the LLL mode emphasised seems to have been based on a minimalist LLL perspective, as discussed earlier in Chapter 2 and illustrated below.

'If we are to make real progress in adult education, it is essential that we should stop trying to divide up life into sections, one of which is for formal education, and a longer one which is for work with occasional time offered for courses. In a country dedicated to change we must accept that education and working are both part of living and should continue from birth until we die' (Nyerere, 1973, p. 300).

In the policy extract above, the use of terms such as 'education should continue from birth until we die' and 'we should stop trying to divide up life into

sections' suggests the government policy emphasis was on adult continuing education and work-integrated education. A strong political will and policy support for adult education and continuing education was particularly evident from 1967 to the late 1980's. The major purpose of government efforts was to liberate individuals from years of exploitation and to make them self-reliant. Much emphasis in those policies seems to focus on providing a second chance and filling educational gaps among the majority of the adults who missed out education, rather than on offering learners LLL pathways (Banya, 2010; Mushi, 2009).

As noted earlier in Chapter 1, the above findings are also in accordance with observations by Cooksey (1986, p. 184) suggesting that, in the 1970's, Tanzanian education policy efforts were largely concerned with the expansion of primary and adult education while restricting the expansion of secondary and university enrolments. Even though most of the policy efforts in the second phase were meant to overcome the historical inequalities in education that were mentioned earlier, the initiatives during this era nevertheless appear to be characterised by many deficiencies. Despite some achievements by those policies in promoting equality in education, they also led to a decline in standards and in the quality of education (Wedgwood, 2007; Lassibille *et al.* 2000). The long-term effects included an acute shortage of qualified teachers, which led to an enduring effect on the quality and standard of instruction at other levels of education (see Cooksey, 1986; Wedgwood, 2007). Anecdotal evidence cited by Cooksey (1986), suggests that despite the enactment of various policies during this phase, there was a persistent and drastic decline in students' cognitive achievements in the various levels of education, including secondary school and higher education.

Critics such as Lassibille *et al.* (2000) maintain that the implementation of education policies during this phase not only resulted in a disastrous reduction in the quality of education and low cognitive capabilities among school-leavers but also failed to meet the projected manpower and equity objectives. Lassibille *et al.* (2000) demonstrated that the educational policies implemented during this phase negatively impacted on learning and restricted the expansion of education through the use of a quota system based on gender and geographical location to pick students for post-primary educational placements. Consequently, the post-

primary and post-secondary education systems in Tanzania remained poorly developed for many years. Cooksey (1986) illustrates this further as he indicates that between 1970 and 1985 the secondary schooling gross enrolment ratio stagnated at 3%, thus implying that Tanzanian children had the lowest probability of attending secondary school of all children in the developing world.

4.6.3 Phase Three: Mid-1980's – mid-1990's (liberalisation & privatisation)

As reflected in Molle's model (*Figure 4.1*), higher education and lifelong learning policies are also influenced by the international policy agenda. The third phase of higher education policy development in Tanzania was largely the result of the considerable external influence of the mid-1980's international policy context and the dynamics of market liberalisation and partly the result of the country's internal micro-economic factors (Mushi, 2009; Varvrus, 2005). As noted in Chapter 1, given the adoption of micro-economic and market liberalisation policy reforms proposed by the IMF and the World Bank, Tanzania in the 1980's was obliged to re-think and abandon most of her socialist social and economic policies (Mares & Carnes, 2009; Mosha, 2006). Towards the mid-1980's the government realised the inadequacy of its traditional socialist development policies in responding comprehensively to the rapidly changing market and technological conditions and in making the country and individuals compete in the regional and world economies. From 1986 onwards, the government started implementing the IMF/World Bank-sponsored microeconomic and market liberalisation Structural Adjustment Reforms (SAPs).

As noted earlier in Chapter 1, the higher education reforms introduced in the mid-1990's as a result of IMF/World programmes, included privatisation and cost-sharing policies. The cost-sharing policy in the context of Tanzania implied that there would be a shared responsibility for funding education between the government, students and their parents, communities and external donors (Cloete *et al.*, 2011, p. 19). This policy also meant that there would be diminishing levels of public subsidies for higher education and increasing user charges to cover the students' living costs (Ishengoma, 2004). Under this policy universities were required to generate some of their income, and the government priority shifted from higher education to primary and secondary

education (Ishengoma, 2004). Quite a significant number of critics (Bonai, 2002; Varvrus, 2005) consider the SAPs to have resulted in more negative direct and indirect impacts than in positive ones, particularly on the quality of education and on access to education for the most vulnerable and the poorest groups in society. Varvrus (2005) indicates that whereas the SAPs macro-economic policies were designed to enable the country to improve its macro-economic performance, there had nevertheless, as a result of these SAPs, been growing income inequalities between those who could afford education and those who could not. Meanwhile Bonai (2002, p. 7) argues that the imposition of SAPs contributed to negative effects such as falling educational expenditure as a percentage of Gross National Product (GNP), a reduction in *per capita* expenditure and an increase in educational absenteeism and school failure in primary and secondary education.

Based on Molle's framework (*Figure 4.1*), the introduction of cost-sharing policy reforms in Tanzania epitomises the financial contextual influences on higher education with effects on domains such as the allocation of fewer resources to education, gender inequality and the deprivation of the majority to the basic right to education. Cloete *et al.* (2011) postulates that the adoption of this higher education cost-sharing policy in a form of loan schemes in Tanzania exacerbated the already prevailing inequalities in higher education due to the loan schemes being characterised by numerous operational problems, thus curtailing the possibility that lifelong learning might thrive. This suggests that the effects of the cost-sharing policy also included the obstruction to participation in education for students who otherwise might have been enrolled (Cloete *et al.*, 2011; Samoff, 1990).

Similarly, the adoption of privatisation in higher education policy, through which the World Bank encouraged a major presence of the private sector in higher education in an attempt to increase access, resulted in a number of negative impacts on quality (Oketch, 2009). Despite the introduction of private higher education institutions in the country in 1995, a considerable number of studies, including those by Ishengoma (2004) and Oketch (2009), indicate that the majority of the established private universities were performing poorly due to substantial deficiencies in their institutional governance and operation. The

shortcomings, for example, included limited infrastructure, an inadequate capacity for institutions to admit many students and a lack of academically qualified staff. Other weaknesses included insufficient financial resources (that is, financial contextual influence as suggested in Molle's framework). Most of the private institutions' financial stability heavily depended on foreign donations and on students' fees (Cloete *et al.*, 2011).

Despite the introduction of privatisation and cost-sharing policies as a response to the high demand for access to higher education and as a means of raising transition rates to higher education, the new policies had only a slight impact on LLL. Critics such as Cloete *et al* (2011) suggest that despite these policies, there was little improvement in student learning and in the effectiveness of the new private institutions. As noted earlier, the newly introduced policies led to widening social inequities and inequalities in education in Tanzania. Critics such as Samoff (1990, p. 3) note that, despite the adoption of this privatisation policy as an antidote to the widening inequalities in Tanzanian education as a result of declining resources, the new policy continued to favour the more affluent, since the more affluent are better able, and perhaps more willing, to pay fees so that the education benefits were more likely to accrue to these communities. Likewise, some anecdotal evidence, cited by Cooksey (1986), suggests that, as a result of government reduction in education spending, a number of students had been entering tertiary education institutions without a strong foundation for subsequent learning due to their poor performance in primary and secondary school examinations.

During this phase too, the government formulated the Education and Training Policy (ETP) in 1995 (URT, 1995), aimed at accommodating the various educational policy changes made in the country. The ETP document is regarded as a comprehensive plan for embracing 21st century global challenges such as access, equity and quality at all educational levels (URT, 1995). However, despite the claims made for this policy, numerous weaknesses seem to exist in the text. One of the major omissions in this policy, for example, is its failure to make any apparent reference to lifelong learning as one of the visions of the 21st century. Neither does the document show a clear connection between lifelong learning and higher education. The document, however, clearly acknowledges

the shortfall in the prevailing education system in relation to continuous learning, arguing that: -

‘Despite the rapid expansion of the education system over the last three decades, too few of the working population have the adequate knowledge and skills needed to meet the demands of rapid economic development’ (URT, 1995, p. Forward)

In this document the notion of continuing education is also considered within the limited scope of its constituents; continuing education is merely defined in terms of its role in ‘compensating educational deficiency for those who missed out’ (see p.85). Conceptualising continuing education in this manner tends to overlook some of the continuing education clients such as graduates who might need to re-learn or undergo professional development. It therefore very much limits the pursuit of different visions/forms of LLL, previously suggested in the literature (Coffield, 2000b; Maclachlan & Osborne, 2009).

Additionally, as noted earlier in Chapter 2, the analysis further revealed that LLL and higher education policy in Tanzania was also influenced by the global education policy agenda such as the Jomtien (1990) and Dakar Education for All (2000). Despite the fact that the focus of EFA initiatives was on basic education, the EFA goals have provided the recent impetus for the country’s endeavours to design educational policies with a bearing on LLL. As the subsequent section shows, within the EFA framework, the agenda of LLL has been increasingly taken on board in the newly formulated policies such as in the Tanzania Development Vision 2025. Tanzania, for example, has set a target to achieve universal access to basic education by the year 2015. However, despite the country’s commitment to achieve this target, there has been unsatisfactory progress towards the EFA targets due to various limitations including inadequate public finance for education, as reported earlier. Challenges, for example, include the high adult illiteracy rates and the gender disparity in attainment. In the 2009, for example, the adult literacy rate was estimated to be 79% among men and

67% among women (that is, roughly 33% and 21% of women and men respectively were still lacking basic literacy skills).³¹

Limitations of the EFA policy initiatives also include the parochial focus on basic literacy skills (3Rs) (that is, ability to read, write and do simple arithmetic) rather than developing complex generic skills such as information literacy that is now essential for an individual's functioning in an increasingly globalised world. The policy initiatives, in addition, seem to lack a holistic vision of learning and education, since EFA focuses mainly on the formal schooling system (pre-primary, primary, secondary and tertiary education) overlooking other forms of learning. For example, despite the introduction of EFA policy goals, adult education discourse continues to be regarded as a remedial and compensatory programme in Tanzania, with particular attention paid to the extremely poor, and it is still very much associated with adult literacy rather than focusing on learning in its broadest sense (Torres, 2002).

4.6.4 Phase Four: late 1990's to date - the Tanzania Development Vision 2025

The main feature of the fourth phase in higher education and LLL policy development was the introduction of the Tanzania 2025 Development Vision, which articulates the country's long-term direction in the 21st century and the goals to be achieved by 2025 (*Table 4.1*). The vision originated from the national direction and philosophy vacuum created after the 1986 social and micro-economic reforms. During this phase the concept of 'globalisation' and associated terms such as 'knowledge society' started to emerge and became more visible as key terms in the formulated educational policies. With the introduction of globalisation as a guiding principle, the majority of government policy discourses about the future of education began both implicitly and explicitly to acknowledge the centrality of the learning society. Frequent reference was also made to concepts such as 'entrepreneurial skills', 'continuing education', and 'self-directed learning' as core concepts through which education should be organised (see, URT, 1995, p. xi; 1998, p. 17).

³¹ Data extracted from UNESCO Global Partnership for Girls' and Women's Education - http://www.unesco.org/pv_obj_cache/pv_obj_id_A7EC900F46A7BAAE33B089AC7D5739E67C340800/filename/TZ_EDFactSheet.pdf

In the Tanzania 2025 Development Vision, the government acknowledged the importance of an 'educated society' and of tertiary education and training as the central vehicle through which a well-educated society, sufficiently equipped with the necessary knowledge, could be created. The document emphasises the importance of the qualitative and quantitative transformations that have to be made in education to achieve a learning society, arguing that: -

'High priority must be given to education and continuous learning, the effective transformation of the mind-set and culture to promote attitudes of self-development, community development, confidence and commitment to face development challenge' (URT, 1998, p. 17).

'The society should be encouraged to learn continuously in order to upgrade and improve its capacity to respond to threats and to exploit every opportunity for its own betterment and for the improvement of its quality of life' (URT, 1998, p. 18).

Even though this policy document does not make a direct reference to LLL, it nevertheless seems that the document uses the term 'continuous learning' to suggest the importance of lifelong learning. The above policy extract interestingly makes continuous learning one of the major government priorities and ambitions. This document stresses that higher education and continuing education are 'driving forces' important for 'promotion of self-development and community development'. Higher education is regarded as 'a crucial force for enabling individuals to face development challenges' (URT, 1998, p. 18).

4.7 The influence of university policies on lifelong learning

In 1999, Tanzania formulated a National Higher Education Policy to establish guidelines for higher education provision in the country. Prior to this time, the country had no clear philosophy or framework to guide and regulate universities' actions, provision and practices in achieving their goals and objectives. Given the policy vacuum, higher education in the country was characterised by several negative consequences, including: -

'...constrained enrolment expansion, uncoordinated and unregulated proliferation of tertiary training institutions; an imbalance in student intakes between sciences and liberal arts in an age and environment

demanding scientific literacy for technological advancement and inadequate financing' (URT, 1999, p. 1).

The vacuum in higher education policy in the past had also been a source of many controversies and problems such as the lack of a common university working definition, an unclear conceptualisation of higher education and operational problems with delivery systems and processes. Consequently, there had been several adverse effects on the university processes and final products. The consequences also included the inadequate integration of technology in teaching and the universities lagging behind in terms of technology with the majority of the academics continuing to use archaic methods and technologies (URT, 1999, p.7). As revealed in the analysis, however, despite the formulation of the 1999 Higher Education Policy, the connection between higher education and LLL seemed nevertheless to continue to be inexplicitly articulated in formal documentation. Even though the document cites concepts such as 'entrepreneurship' and 'social democracy' as priorities in the country, the notion of LLL seemed to be only peripherally acknowledged in the document, as indicated below:-

'Curricular emphasis in institutions of higher education shall be placed on programmes that are geared towards responding to the needs of a changing world and corresponding to the ever-changing needs of the people (URT, 1999, p. 7)'

'In order to socialise students into habits of social democracy, the traditional subjects will be reviewed to incorporate training in environment, science, entrepreneurship & civics (URT, 1999, p.7).

As suggested above, the document seems to implicitly urge higher education institutions to devise more flexible programmes that mirror society's changing needs, at the same time implying the need for LLL. The above policy extracts also seem to make reference to the centrality of social democracy and entrepreneurial skills in higher education institutions. Despite this emphasis, it appears that the document omits an explicit use of the term 'lifelong learning' and uses instead the term 'continuous learning' based on a minimalist perspective of LLL, as suggested earlier in Chapter 2.

At a micro-level the study examined the effect of institutional policies on LLL in order to uncover the extent to which the University was committed to promote students' LLL attributes. Based on the analytical framework of Berge (1998) and

Gellman-Danley and Fetzner (1998), which proposed the examination of components such as academic, fiscal and governance, technical and philosophical issues (*Table 4.2*), the study examined the numerous strands of institutional policy.

Table 4.2 Key areas in examining institutional policies

Policy area	Key issue
<i>Academic</i>	Modality of instruction, institutional commitment to LLL, flexibility of programmes and curriculum, student admissions, programme approval and accreditation for example, course quality & curriculum review.
<i>Fiscal and governance</i>	Funding, equipment expenses, library and media support, student support, for example, policy on control and distribution of funds.
<i>Faculty</i>	Staff development, class size and workload issues.
<i>Legal</i>	Academic staff and administrators' awareness about legal issues, for example, policies about copyright and fair use, ownership of intellectual property etc.
<i>Student</i>	Integrated student support services reflected in general policies. Availability of library services for everyone. Availability of policies for students and academics, for example, an academic advisory system, access to resources and training for students.
<i>Technical</i>	Student and academic staff technical support, for example, for students who learn at home. Hardware, software and connectivity for example, hardware and software accessibility, system reliability etc.
<i>Philosophical</i>	Acceptance of LLL based on a clear understanding of the approaches, organisational values, mission and vision statements.

However, despite the range of possible issues proposed in the framework in Table 4.2, and given the fact that some of the elements proposed in the framework have already been addressed elsewhere in this thesis, the analysis in this chapter is limited to selected major issues, namely, those that can be described as philosophical (that is, an analysis of institutional missions) and academic (that is, an analysis of university course objectives, content, and enrolment policies), as detailed below.

4.7.1 The influence of university aims and mission statements on LLL

To establish the value attached to LLL and the extent to which the importance of LLL is reflected in the university documents, the study examined the

university mission statements and visions as propounded in the University corporate strategic plan 2004-2013 (UDSM, 2010). Content analysis revealed that the University aspired to become a competitive institution in terms of the graduates it prepared, as indicated in its vision and its goals below: -

‘...to become a reputable world-class university that is responsive to national, regional and global development needs through engagement in dynamic knowledge creation and application’ (p. vii).

‘to achieve ‘enhanced continuing education and life-long learning’ (*University Goal Number 4, p. 1*)

‘...fostering students’ prowess by creating a holistic teaching and learning environment which is student-centred, and providing students with social, cultural and recreational opportunities that will facilitate the full realisation of their potential for academic and personal growth’ (UDSM, 2010, p. 6)

The above extracts suggest the University’s acceptance of the necessity of LLL and the value of prioritising it. As stated in the 2004-2013 university corporate strategic plan (UDSM, 2010), the university has not only set LLL policy-related goals but has also incorporated ‘student-centred learning’ as one of its core values. However, despite the University’s acknowledgement and reference to components such as ‘engagement into dynamic knowledge creation’, implying an emphasis on LLL, the analysis suggests an absence of explicit commitment to its principles. Findings, for example, suggested that, apart from the *ad hoc* and fragmented references made to concepts related to lifelong learning such as learner-centred learning and LLL in the university vision and the strategic plan (UDSM, 2010), there were no other references in the document to suggest the translation of the University’s vision into serious practice. No evidence to suggest the translation of LLL goals into actual practice as revealed in the analysis of the interview comments made by elite national policy-makers and senior university officials below: -

‘I am saying we hope that after finalising the open and distance learning policy, it will trickle down to institutions and these institutions will be able to see how to translate it’ (*Ministry Official 1*)

‘It is not written anywhere, but it is expected, it is expected of the lecturers, because even when we are processing examination results

in the senate committees, members normally ask about students' problems and measures taken' (*Senior University Official 1*)

Comparable interview comments suggesting a lack of policy were also given by other lower level university administrative officials, who expressed similar feelings implying the absence of a comprehensive LLL policy, as illustrated below: -

'These things are just assumed, specifically at school level, that we want to develop students who are entrepreneurial, those who are good decision makers, they are analytical in their decision-making processes' (*University Official 3*)

'No, I don't remember any document outlining such instructions, but I think in our meetings usually these things come out. I can say that it is not explicit, I am not aware of this. No I don't think there is any. What I would say is just half to your question, because students always are encouraged to read beyond what is taught in the class' (*University Official 2*)

'I don't think this needs a university or college-wise policy, much will depend on individual lecturer initiatives. As a college, our policy is that there must be at least two tests for a course work' (*University Official 1*)

It appears from the above findings that there are contradictions between what the university's vision claimed to have achieved and the realities in the teaching and learning process. Whereas the university vision, goals and values indicate that it is striving to promote lifelong learning, participants at both the national and university levels believe that there are no sufficient policy mechanisms to translate the vision into reality. As revealed in the findings above, the absence of institutional and unit level policies to guide the implementation of LLL might be a possible source of the imbalance, unpredictability and lack of uniformity in practices in different academic units and among lecturers themselves.

4.7.2 The course effects on lifelong learning

Candy *et al* (1994) suggest that university courses supportive of LLL must have certain unique qualities including (1) providing a systematic introduction to the field of study, (2) offering choices and self-direction for students, and (3) seeking to broaden students' minds and providing them with generic skills. The

analysis performed in the present study revealed the contrasting features of university courses in relation to lifelong learning, as indicated below.

4.7.3 The effects of course objectives

The content analysis of university courses revealed the presence of two contrasting approaches followed by academics in formulating course objectives, namely, learner-centred and teacher-centred. The majority of lecturers appeared to formulate course objectives on the basis of teacher-centred objectives and only a few seemed to formulate their teaching objectives on a learner-centred basis. Examples of each approach are illustrated in Table 4.3:-

Table 4.3 A course objectives extract illustrating a sample of teacher-centred versus learner-centred course objectives

Category	Objective
Course A (teacher-centred) ³²	(1) 'to train a student in the task of designing buildings for different purposes and (2) to familiarize the student with different types of building components and how they interact'
Course B (learner-centred):	To develop students' ability and understanding of: -the role of accounting within organizations and in society, -accounting concepts and procedures, -the collection and use of accounting data in different forms of business and institutions

Findings indicated that the majority of lecturers (*about 60%*) believed that their role was mainly to impart knowledge and to dispense content, suggesting their preference for the teacher-centred approach to teaching (*mainly lectures*). Fewer lecturers formulated course objectives on the basis of learner-centred approaches such as facilitating students' learning activities through participatory approaches. As indicated later in Chapter 6, perhaps these findings could also explain why the majority of the lecturers seemed to encourage learning strategies based on external regulations.

4.7.4 The effects of course structure

The findings with regard to academics' provision of a systematic introduction to the field of study for their students (Candy *et al.*, 1994) suggested the existence

³² See Appendix 'P'

of contrasting ways in which lecturers introduced courses. On the one hand, some lecturers seemed to follow an elaborate structure in which many features were aimed at assisting students to learn on their own in addition to informing them about the content to be covered (*Table 4.4*). On the other hand, some lecturers had a basic way of preparing their course content in such a way that they mainly focused on the content to be covered without giving any further information such as mentioning available support for learning, which could facilitate self-directed learning.

Table 4.4 Extract showing details on elaborate versus uncomplicated course structures

Basic course structure (Lecturer A)		Elaborate course structure (Lecturer B)	
i.	Course objectives:	i.	Course instructor's contact details
ii.	Learning outcomes	ii.	Course descriptions
iii.	Delivery format:	iii.	Course goals/objectives
iv.	References (only two references listed)	iv.	Key university information, for example, plagiarism
v.	Course assessment:	v.	Course requirements
vi.	Course Contents:	vi.	Course contents
		vii.	Course delivery
		viii.	Course assessment
		ix.	Listing of resources (course text and supplementary texts)

As depicted in the extract above, two contrasting approaches, used by academics to introduce details of their course content, could be seen from the findings (*Table 4.4*). Unlike lecturers following the basic structure, lecturers following the elaborate structure seemed to incorporate many self-directing features that are helpful to LLL, including providing information about the university's plagiarism policy and giving additional readings. The findings also revealed that whereas lecturers from category 'B' seemed to structure their courses in a way that might offer students more chances for self-directed learning, their counterparts in category 'A' appeared to aim at the simple objectives of imparting content. With regard to information skills, for example, lecturers following the elaborate approach to introducing courses included statements such as 'regarding cheating and plagiarism, these are considered as examination irregularities and explained in the university prospectus.' This statement sought to prompt students to think about the ethical use of information resources. Such lecturers also seemed to equip students with other

supportive information such as the course lecturer's email and their consultation hours, that is, 'Tuesday 11 to 13 hours, Friday 10 to 12 hours' - suggesting a readiness to offer support. None of these details seem to exist in the basic course outlines and structures described above. The lack of uniformity in course structures among lecturers, however, might also be explained by the absence of university policies on these issues, as was discussed earlier.

4.7.5 Students' enrolment expansion policies and effects on LLL

The findings also suggested that there has been a considerable increase in student enrolment since 1994 (*Figure 4.3*) and it has been disproportionate to the resources available. Whereas the justification for increased enrolment were the government's efforts to boost public access to higher education, there has in fact been no parallel increase in resources, and the university has been enrolling greater numbers of students than it has the capacity to manage. As the subsequent sections indicate, the increase in student enrolments in recent years has been one of the major reasons for the declining quality of teaching and learning. Despite the rationalisation for the expansion of student enrolment being the increased social demands for higher education in the country, findings clearly indicate the detrimental consequences of such student expansion policies on the quality of teaching and learning and on the promotion of lifelong learning skills.

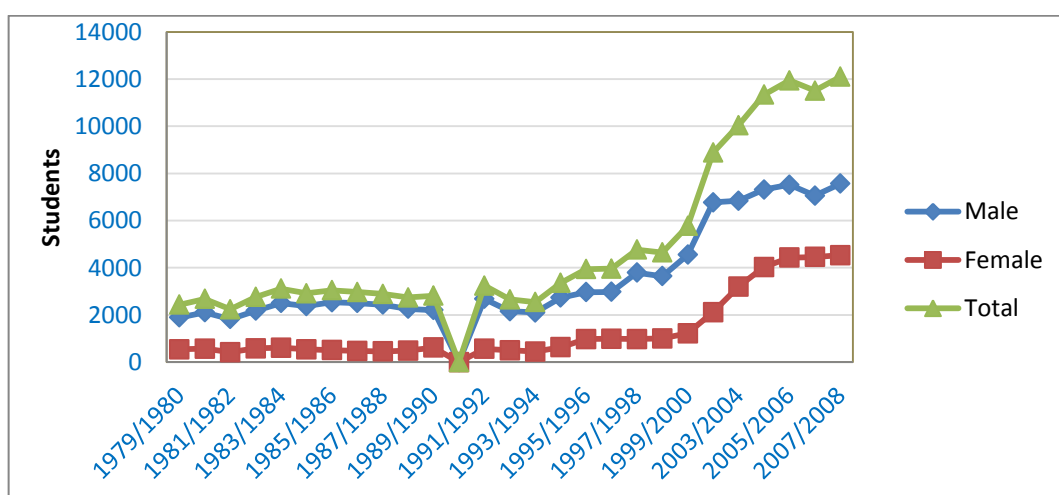


Figure 4.3 Trends in student enrolment 1979-2008

Source: UDSM (2000) & UDSM (2012) University website: facts and figures.

In Figure 4.3 above the statistics show the phenomenal growth in the number of students from 1994 when the implementation of the expansion policy began. As shown in these data, the total number of undergraduate students enrolled at the university has almost quadrupled from 3,359 in 1994/1995 to 12,099 in 2007/2008³³. However, statistics in Figure 4.3 indicate a consistent gender disparity with females lagging far behind males. As noted earlier in Chapter 1, one possible reason for this gender imbalance could be the lower female gross enrolment and the under-representation of females at all levels of education (Lihamba *et al.*, 2006; Masanja, 2004; Mlama, 2005). Meena (1996) shows that fewer girls completed the secondary school level than boys with a completion ratio of only 0.64. Also, according to Meena, the gender ratio tended to be worsening at tertiary level where the enrolment gender ratio was only 0.22.

As stated earlier, despite the overall rapid increase in student enrolment, there has been no parallel increase in teaching and learning infrastructure and resources so that the promotion of lifelong learning initiatives seems to be negatively impacted. The documentary review evidence indicated a critical shortage of teaching and learning infrastructure in items such as teaching rooms, working space, seminar/practical rooms, laboratories and staff offices as well as staff and student accommodation; furthermore, most of the available infrastructure was seriously dilapidated (UDSM, 2010, p. 16).

The effect of increased student enrolments with a diminishing infrastructure for the support of learning could also be felt amongst the lecturers interviewed. The interview comments clearly reveal the repercussions of high numbers of students, as illustrated below: -

‘Teaching a group of more than one hundred students is a very challenging task, it is very difficult to interact and also difficult to solve learning problems for all’ L1, (*Engineering*)

‘The lack of facilities, equipment and infrastructure, that is what makes students not participate effectively. Sometimes when you have a big class, let’s say of 200 students, you find that those who are actively involved are only 40 or 60; others are just observers’ L6, (*Science*)

³³ In 1990/91 the university was closed for the entire academic year following violent student riots, triggered by dissatisfaction over welfare matters (Cooksey *et al.* 2003; p.9)

The interview comments above indicate the participants' sentiments with regard to the consequences of disproportionate student enrolment on the quality of teaching and learning. As the quotations above suggest, the growing number of students vitiate any improvements in teaching and learning infrastructure and resources and pose a threat to potential institutional endeavours to cultivate lifelong learning. The findings additionally indicated that, despite the University's attempts to expand some of the university lecture theatres to a seating capacity of 1,000 students, participants felt that teaching such big classes could not guarantee effective interaction during teaching and learning, thus curtailing any move towards lifelong learning (UDSM, 2010).

4.8 Key themes and issues emerging from the policy analysis

This chapter has examined Tanzania's educational policies and legislation since the 1960's on the basis of the content analysis and interview data. It examined the policy content and commitments relating to higher education and lifelong learning. A framework by Molle (2007), emphasising the consideration of the contextual factors influencing policies, was used in an attempt to understand the higher education and LLL policy content, trends and practices. Additionally, the Berge (1998) framework for analysis of institutional policy, focusing on aspects such as organisational values and course quality, was used to analyse institutional policies. Even though many relevant issues and themes seem to emerge from the findings, the key emerging issues however seem to revolve around the following two major themes: the absence of a broad national lifelong learning policy and the unsatisfactory supportive institutional policy environment as summarised below.

4.8.1 Conceptual problems, ambiguities and the lack of clarity

The findings revealed several conceptual problems and contradictions in the national and institutional policies that were examined. For example, whereas the Education and Training Policy (ETP) emphasised the promotion of a learning society, the discourse about this concept appeared to be too broad and vague and lacking details and clarity on how learning-to-learn skills might be promoted. Furthermore, the ETP included only a vague conceptualisation of the

term 'lifelong learning'. The concept is loosely used to define the purpose of primary education as 'to prepare every citizen to continue a never-ending journey of lifelong education'(URT, 1995, p. 4). In spite of the aims mentioned about preparing citizens for lifelong learning, the findings suggested that there was no further reference made to this noble vision. Similarly, no further clarifications were made in the document on how exactly to implement the vision of lifelong learning at different levels. What instead seems to be emphasised and frequently mentioned was the notion of continuing education.

Despite the ETP emphasis on continuing education as an integral part of the education system, the concept seemed to be narrowly and naively defined as 'the education pursued by those who for various reasons have had no opportunity to continue with formal education' (URT, 1995, p.85). Even though defining continuing education in this manner might be interesting, the definition seems to overlook a number of other potential continuing education clients, including university graduates and professionals who might need to re-learn. The document also narrowly defines the scope and parameters of 'adult education' to be primarily concerned with the provision of the 3Rs (that is, reading, writing and doing simple arithmetic) (URT, 1995, p. 82). This approach to defining adult education seems to ignore several of the other important skills needed for functioning in the 21st century such as the basic information and computing skills proposed by scholars such as Coffield (2000b) and Maclachlan and Osborne (2009).

4.8.2 Ideological and historical effects

The analysis undertaken in this chapter also suggested that there had been effects from the country's historical realities and from the past socialist ideological orientation that had emphasised such principles as the equitable distribution of wealth and the absence of exploitation. Consequently, higher education in the context of such socialist policies was expected to inculcate a sense of the communal ownership of resources and not of the university's obligations to promote attributes such entrepreneurship (Kassam, 1983). As noted above, critics indicate that the implementation of some of the socialist educational policies in Tanzania resulted not only in a disastrous reduction in the quality of education and in the cognitive capabilities of school leavers but also

failed to meet both the intended manpower and equity objectives. It is further argued that some of the educational policy goals adopted resulted in serious unforeseen and deleterious effects on the general standard of education (Cooksey, 1986, p. 183). Despite the adoption of IMF/World Bank-guided micro-economic and market liberalisation reforms in the mid-1980's with the aim of stimulating access and improving the quality of education, critics argue that the impact exerted by the IFM/WB reforms resulted in only moderate improvements in the education sector, with many negative effects on access, equity and gender parity (Bonal, 2002; Varvrus, 2005).

4.8.3 Quality versus quantity and the diminishing infrastructure effect on lifelong learning

In the context of developing countries such as Tanzania, the tension between quality and quantity has long been an issue of concern in pursuing educational goals (Bogue, 1998; Teffara & Altbach, 2004). Findings in the present study suggested that the government faced a policy dilemma due to the need to fulfil its legal obligations to provide adequate and equitable education and at the same time to maintain quality. The findings further suggest that despite the rapid increase in student enrolment since 1994 there had been no parallel increase in the teaching and learning infrastructure and in resources. The University seemed to face critical shortages in physical teaching and learning infrastructure such as students' hostels, teaching rooms, working space, seminar/practical rooms, and laboratory staff offices as well as staff and student accommodation. The findings also suggest that most of the available infrastructure was seriously dilapidated to the extent that it contributed to a decline in teaching and learning standards and negatively impacted on the potential for lifelong learning.

4.8.1 Absence of a prescribed lifelong learning policy, incomprehensive policy documents and discrepancies between vision and reality

Despite the importance of policies as powerful tools for the successful implementation of lifelong learning goals, the findings indicated the absence of an adequate national and institutional LLL policy, implying that it is therefore unlikely that there would be a well-established development of students' LLL

skills. The analysis undertaken suggested the absence of a concrete university-prescribed lifelong learning policy except for *ad-hoc* fragmented references made in different university documents to terms such as ‘learner-centred learning’ and ‘lifelong learning’.

The findings in this study were also consistent with observations by Sumra and Rajani (undated) indicating that even though most of the educational policy documents in Tanzania set different targets pertinent to lifelong learning and higher education, the majority of these goals seemed to lack clarity. Despite the targets set in these documents, the methods of measurement rarely encompassed these goals. Most of the targets instead focused on quantitative improvements and inputs. It appears that there is a disconnection between the expectations from education and the conceptualization of issues in policy development.

The content analysis revealed some discrepancies between the vision and the reality in the implementation of LLL policies. Despite the formulation of different policy documents such as the Tanzania 2025 Development Vision and the Education and Training Policy (ETP) claiming to be a comprehensive education and training policy guide for the 21st century, no evidence was found suggesting strategies for the actual implementation of the vision and aspirations stated. Most of the existing policies indicated somewhat disjointed and fragmented ideas in relation to lifelong learning. The analysis of documents such as the Tanzania Development Vision (1998) indicated that despite the political rhetoric lauding a ‘learning society’ in the policy documents, the strategies and resources for implementing this vision seemed to remain far from satisfactory.

As for institutional policies, the content analysis indicated that, even though terms such as ‘lifelong learning’, ‘learner-centred’ and ‘entrepreneurial skills development’ commonly appeared in the university vision, mission statements and in some other official documents, no further implementation strategies seemed to exist. The majority of the courses were seemingly designed, for example, not to put any emphasis on students’ development of lifelong learning skills.

Chapter 5

Stability and variability in ‘processing’ and ‘regulation’ strategies, ‘personal agency’, ‘information skills’ and ‘entrepreneurial skills’

5 Introduction

This chapter examines the stability and variability between phase 1 and phase 2 of the ‘processing strategies’, ‘regulation strategies’, learning orientations, ‘information skills’ and ‘entrepreneurial skills’ of students. The investigation in this chapter was underpinned by the existing theoretical evidence concerning the likelihood of the development of various lifelong learning skills as students progressed through higher education. The specific objectives of this chapter are threefold: firstly, to introduce the dependent and independent variables to be examined and the inventories used to measure these variables; secondly, to report the descriptive results from the longitudinal study; and finally, to examine change and stability in the mean scores in different ILS and ISS variables. In addition, an element of mixed methods is introduced through the use of qualitative data to allow corroboration and triangulation with the data.

5.1 Research question

The existing literature (for example, Candy *et al.*, 1994; Pascarella & Terenzini, 2005) suggests that lifelong learning skills improve as students’ progress in higher education. The study in this chapter sought to address the research questions concerned with ascertaining whether or not there was a relationship between students’ progression in higher education and the increase, decrease or stability in the above lifelong learning variables. If yes, to what extent? Or if not, why?

5.2 Sample and procedures

As clarified earlier in Chapter 3, in order to understand the effect of the undergraduate education on students’ LLL skills, a longitudinal (within-subjects) study was carried out through following a sample of incoming first-year

undergraduate students ($n=839$) who started their studies in November 2010. The participants were drawn from four theoretically distinct academic departments, namely, Accounting ($n=159$), Engineering ($n=300$), Science ($n=209$) and Sociology ($n=171$). A small number of participants ($n=23$) took part in the interviews. The cohort was followed up until March 2012 so as to monitor whether there had been change or stability in their 'processing strategies', 'regulation strategies', 'learning orientations', 'information skills' and 'entrepreneurial skills' as a result of their participation in higher education. Whereas the first phase of data collection took place between December 2010 and January 2011 (approximately 1 month after the beginning of the academic year), the second phase of data collection was in March 2012 (approximately a year later).

In both the first and second phases of data collection, the questionnaires were administered in a one-hour lecture session with the assistance of lecturers from the respective courses. The completion of the questionnaires took between 45 minutes and 1 hour. The participants were recruited on a voluntary basis, and no incentives were offered. Instead, the altruistic value of the research and the justification for them to take part were fully explained. Even though the data collection procedure required students to provide their matriculation numbers to allow the comparison of data between the first and the second phases, the participants were assured their anonymity and confidentiality would be maintained.

As discussed later in Chapter 8, despite the relatively high number of responses in both phases of data collection, that is, the first phase of data collection ($n=839$) and the second phase of data collection ($n=913$), the number of matching questionnaires was relatively small ($n=421$), that is, 51%. This reduction in the number of matching questionnaires was presumably the result of factors associated with the nature of paired data studies of this nature, in which some returns tend to have missing data. However, as Table 5.1 suggests, the sample seemed to represent typical students' characteristics.

Table 5.1 Students' demographic characteristics

		Engineering (n=169) %	Accounting (n=101) %	Science (n=59) %	Sociology (n=92) %
gender	Male/Female	84.4/15.6	70/30	80.7/19.3	44/56
Age	≤20	31.9	14.0	5.4	17.6
	21-23	59.7	73.0	60.7	67.0
	24+	8.4	13.0	33.9	5.5
Locality	Rural/Urban	46.3/53.7	39.8/60.2	62.5/37.5	54.0/46.0
Family income	Peasantry	43.6	64.8	53.9	55
	Clerical jobs/self- employment	2.8	3.7	2.2	3
	Professional jobs	53.6	31.5	43.8	42

For analysis purposes, the researcher omitted from analysis data from participants who were not present for both phases of the survey and from those for whom it was not possible to match responses for the two phases. Errors also included the omission of university matriculation numbers and incomplete surveys. The reduction in the number of valid responses might also have been caused by the procedures followed in recruiting the participants during data collection; this entailed the researcher going into classes where students were taking elective modules or options. Some of the students taking the first-year options might not have taken the second-year options and vice-versa. However the final sample size obtained of 421 students, that is, 51% was deemed adequate for meaningful statistical analyses. Even though the loss of participants between the two phases might have led to attrition bias and threatened the internal and external validity, a study by Miller and Wright (1995) suggests that the potential threat of attrition bias may occur only if those who drop out have unique characteristics such that the remaining sample ceases to be representative of the original sample. Even though there was sample attrition in the present study, the assumption is that it occurred at random and the final sample seemed to be broadly representative in dimensions such as rural-urban, gender and academic departments (see Table 5.1). Table 5.2 shows the number of participants in each of the two phases of data collection and the actual number of participants included in the paired data: -

Table 5.2 Sample size & participants in the two phases of data collection by disciplines

<i>Academic Department</i>	<i>Survey</i>		
	<i>Number of ILS & ISS surveys distributed and completed by respondents.</i>	<i>Final sample size of matched surveys (returned and completed in both instances).</i>	
	<i>Time 1 (n=839)</i>	<i>Time 2 (n=839)</i>	<i>Matching Responses (n=421)*</i>
Accounting	159	326	101 (63%)
Engineering	300	252	169 (56%)
Science	209	157	59 (28%)
Sociology	171	178	92 (53%)
	<i>Interviews</i>		
	<i>Time 1 (n=23)</i>	<i>Time 2 (n=15)</i>	<i>Matching responses (n=15)</i>
Accounting	7	4	
Engineering	5	3	
Science	5	4	
Sociology	6	4	

*Participants who responded in both phases

5.2.1 The interview schedules

As noted earlier in Chapter 3, the study adopted a concurrent mixed methods approach in order to construe change variability and consistency in a more comprehensive manner (Creswell & Plano, 2007; Tashakkori & Teddlie, 1998, 2003). The qualitative approach was used partly because it was deemed to be a useful way of exploring data and explaining the observations more exhaustively particularly by ‘confirming’, ‘complementing’ and ‘corroborating’ the quantitative results obtained (Yin, 2003, p. 99). The interview schedules covered a number of components addressed in the survey including ‘processing strategies’, ‘regulation strategies’, ‘information skills’ and entrepreneurial skills’ (see *Appendices ‘G’-‘L’*). The data for the qualitative data for this chapter were principally obtained from two major sources, namely, phase 1 and phase 2 interview transcripts and the researcher’s own field notes.

The interview schedules with regard to entrepreneurial skills were constructed on a basis of the framework by Rae (1999, 2000) and Cope (2005, p. 379), suggesting that entrepreneurs can ‘grow and develop’ through higher education. The interview also focused on understanding students’ engagement with activities other than formal studies and the opportunities given them to develop

and implement their own plans or ideas. Students were also asked about their engagement with different kinds of entrepreneurial activities such as volunteering, community activities, part-time jobs and self-employment.

Items on 'information skills' were based on Catt's (2005) framework for information skills development (*Figure 2.4*). The interview schedules focused on students' perceived changes in their abilities to manage and apply information and to construct new knowledge. The questions also focused on aspects such as 'accessing information', 'using information ethically', and 'evaluating information'. Students were also asked to reflect on aspects they would consider when using internet materials and ways in which the internet could be used for learning. Finally, they were asked about perceived differences in using information resources between phase 1 and phase 2.

5.2.1 The Survey

As noted earlier in Chapter 3, the study adopted 75 items from the 100-item shortened version of the *Inventory of Learning Styles* (ILS, Vermunt, 1994). The study additionally adopted the 20-item *Information Skills Survey* (ISS, Catts, 2005). With regard to the ILS, the inventory was used to measure aspects related to study motives (personal agency), processing strategies, and meta-cognition and regulation strategies (Entwistle & McCune, 2004; Vermetten *et al.*, 1999; Vermunt, 1998). It was adopted in the present study because a number of previous studies (for example, Brennan *et al.*, 2010; Busato *et al.*, 1998; Vermetten *et al.*, 1999) consistently attested the utility value of the ILS and indicated that both the students' meta-cognitive skills and learning motives could best be explained using Vermunt's ILS scales. These studies confirm the satisfactory predictive value of the ILS.

The generic Information Skills Survey (ISS, Catts, 2005) was designed to evaluate university policies intended to help students become information-literate.

The major aim of collecting quantitative data was to predict the reliability and validity of ISS and ISS and monitor changes in meta-cognition, personal agency, information skills and approaches to learning as students progressed from Year 1 to Year 2 of their studies.

The rest of the questionnaire included a section on participants' demographic information, developed by the researcher to provide data for addressing research questions 2 and 3 relating to the influence of personal and contextual variables on lifelong learning. Specifically, the variables in this section included components such as the respondent's previous education, gender, age, educational background, marital status and university matriculation number. Other information included the type of accommodation, details of funding information, degree and academic department, and family socio-economic status. Altogether the questionnaire used in the current study comprised 95 items. A copy of the survey is attached to the thesis as *Appendix 'F'*.

5.2.2 Dependent variables

The original ILS instrument consists of four latent variables, namely, (1) 'processing strategies', (2) 'regulation strategies', (3) 'learning orientations', and (4) 'mental models of learning'. However, given the purpose of the present study, the 'mental models of learning' sub-scale was excluded from the questionnaire, because the aim of this study was to focus on measuring only two theoretical LLL constructs, namely, 'learning strategies' and 'motives for learning'. The 'mental models of learning' sub-scale is mainly concerned with students' conceptions and misconceptions about knowledge (Vermunt & Vermetten, 2004).

5.2.2.1 The processing strategies scale (25 items)

This latent variable or construct consists of three scales: *deep processing* (10 items), *stepwise processing* (10 items) and *concrete processing* (5 items). The *deep processing* scale is further divided into two sub-scales: *relating and structuring* (6 items), and *critical processing* (4 items). Likewise, the *stepwise processing* scale is divided into two sub-scales: *memorising and rehearsing* (5 items) and *analysing* (5 items).

5.2.2.2 The regulation strategies scale (25 items)

This latent variable is measured by three sub-scales: *self-regulation* (10 items), *external regulation* (10 items), and *lack of regulation* (5 items). The *self-regulation* scale is further divided into two sub-scales: *self-regulation of*

learning processes and results (6 items) and *self-regulation of learning content* (4 items). Likewise, the *external regulation* scale is also further divided into two sub-scales: *external regulation of learning processes* (5 items) and *external regulation of learning results* (5 items).

5.2.2.3 Learning orientations scale (25 items)

The *learning orientations* latent variable is measured by five sub-scales: *personally interested* (5 items), *certificate-directed* (5 items), *self-test directed* (5 items), *vocation-directed* (5 items), and *ambivalent* (5 items).

5.2.2.4 Information Skills Scale (ISS, 20 items)

The ISS inventory comprises individual statements categorised into five sub-scales, which were regarded as dependent variables in the present study as indicated below:-

- *Accessing needed information* (4 items)
- *Managing information collected* (4 items)
- *Critical evaluation of information* (4 items)
- *Use of information with cultural, ethical, economic & legal awareness* (4 items)
- *Applying prior & new information* (4 items)

In both the ILS and ISS inventories, a 5-point Likert scale with options ranging from '1' (*strongly disagree*) to '5' (*strongly agree*) was used to allow respondents to rate the extent to which the sub-scale question items and statements reflected the behaviour associated with the specified lifelong learning constructs

5.3 Results

This section presents the longitudinal results derived from both the qualitative and quantitative data obtained from the two phases of study.

5.3.1 Internal consistency

Prior to running tests for the examination of the stability and the consistency of mean scores on 'processing strategies', 'regulation strategies', 'personal agency' and 'information skills', the internal consistency for both the ILS and ISS were

assessed using Cronbach Alpha values. Table 5.3 shows the Cronbach alpha coefficient values (α) obtained from the two phases of data collection.

Table 5.3 Cronbach's alpha coefficients for scales and sub-scales of the ILS and ISS

<i>ILS</i>	<i>No of items</i>	<i>phase 1 Dec, 2010 (α)</i>	<i>phase 2 March, 2012 (α)</i>
Processing strategies scale	25	.86	.74
Deep processing	10	.76	.82
Stepwise processing	10	.72	.71
Concrete processing	5	.51	.51
Regulation strategies scale	25	.68	.14
Self-regulation	10	.70	.79
External regulation	10	.59	.63
Lack of regulation	5	.59	.66
Learning orientations scale	25	.72	.20
Personally interested	5	.18	.40
Certificate-directed	5	.57	.60
Self-test-directed	5	.60	.52
Vocation-directed	5	.45	.60
Ambivalent	5	.53	.52
ISS	20	.83	.86
Accessing information	4	.49	.61
Managing information	4	.56	.67
Evaluating information	4	.51	.63
Ethical use of information	4	.54	.61
Applying information	4	.52	.52

As indicated in Table 5.3, for the first trial of data collection (phase 1) the Cronbach alpha coefficients values for most of the ILS scales ranged from .45 (on vocation directed) to .76 (on deep processing strategies). However, the Cronbach alpha values for some dependent variables such as personally interested were extremely low (that is, .18). As for the second phase data, the results indicated that the Cronbach alpha coefficients values ranged from .40 for personally interested to .82 on the deep processing strategies sub-scale. Comparing these results with some of the previous studies such as Busato *et al.* (1998) and Vermetten *et al.* (1999), the reliability values were relatively lower for some of the individual items, but nevertheless similar to previous studies for others. As discussed later in Chapter 8, the lower reliability values obtained for sub-scales such as 'personally interested' might suggest the influence of cultural

contexts on the scale's reliability since this study was conducted in a non-western country. Research with ILS (parts of) in non-Western contexts suggests that there is always the influence of cultural contexts on a scale's reliability (see, Joy & Kolb, 2008; Marambe *et al.*, 2012). For example, while a study using the ILS by Vermunt (1998) obtained relatively higher reliability alpha values in a western context ranging from .57 to .87, the results obtained by Minnaert and Janssen (1997), from the administration of the 'regulation strategies' component of the ILS to Belgian students, indicated that one of the scales (that is, external regulation) yielded low reliability coefficient values. The evidence and discrepancies from such studies imply that there is the possibility of an effect of a different context. Considering the evidence indicating the possible effects of cultural contexts and wide acceptance of the scale, even the sub-scales with lower Cronbach alpha reliability such as 'personally interested' were still included in the analyses despite the discrepancies between the current results and the results from previous studies conducted in the context of western countries.

With regard to the ISS, the Cronbach alpha coefficient values obtained ranged from .46 for the 'accessing information' sub-scale to .56 for the 'managing information sub-scale for the first phase of data collection, and from .52 for the 'applying information' dependent variable to .67 for the 'managing information' for second phase. Comparing these reliability results with findings in previous studies (for example, Catts, 2005; Catts, 2007; Clark & Catts, 2007), most of these studies seem to report alpha values higher than .80. A study by Catts (2005) conducted in an Australian context, for example, yielded a reliability coefficient alpha value of .87. However, even though the reliability values in the present study were relatively low for individual sub-scales such as 'accessing information', the alpha values obtained on the information skills scale on the whole were similar to those in previous studies (see, Catts, 2005; Catts, 2007; Clark & Catts, 2007).

Further descriptive results indicating mean scores and standard deviations for each of the dependent variables are presented in Table 5.4.

Table 5.4 Mean & standard deviation scores for the ILS and ISS scales & sub-scales across the two phases of data collection

ILS	No. of Items	Phase 1 Mean (SD)	Phase 2 Mean (SD)
Processing strategies scale			
Deep processing* (<i>n</i> =391)	10	38.59(5.40)	38.52(5.72)
Stepwise processing* (<i>n</i> =373)	10	35.19(6.09)	33.25(6.03)
Concrete processing (<i>n</i> =407)	5	19.82(2.74)	19.68(2.53)
Regulation strategies scale			
Self-regulation* (<i>n</i> =390)	10	40.44(4.84)	39.45(5.60)
External regulation (<i>n</i> =390)	10	37.26(4.82)	35.57(4.66)
Lack of regulation (<i>n</i> =390)	5	12.31(3.67)	11.95(3.67)
Learning Orientations scale			
Personally interested (<i>n</i> =392)	5	13.44(3.15)	13.39(2.89)
Certificate-directed (<i>n</i> =396)	5	16.80(4.02)	15.06(3.74)
Self-test-directed (<i>n</i> =382)	5	15.89(4.36)	14.14(3.90)
Vocation-directed (<i>n</i> =396)	5	21.15(2.95)	20.78(3.29)
Ambivalent (<i>n</i> =375)	5	10.76(3.64)	10.88(3.50)
ISS			
Accessing information (<i>n</i> =400)	4	15.63(2.43)	16.30(2.38)
Managing information (<i>n</i> =401)	4	15.31(2.76)	15.59(2.65)
Applying information (<i>n</i> =401)	4	16.06(2.27)	16.67(2.18)
Evaluating information (<i>n</i> =399)	4	15.77(2.40)	16.11(2.35)
Ethical use of information (<i>n</i> =398)	4	14.88(2.83)	15.56(2.81)

*indicates acceptable alphas in phase 1 and phase 2

The remainder of this chapter presents the results on the change and/or stability that might have occurred over time as a result of higher education. The *t*-test statistic (paired sample) was used to test the hypotheses with regard to the variability and consistency of dependent variable mean scores between phase 1 and phase 2.

5.3.2 Change and stability in ‘processing strategies’, ‘regulation strategies’, and ‘learning orientations’ between time 1 and time 2

The first research question to be addressed in the present study concerned examining whether or not changes were evinced in the lifelong learning variables, namely, ‘processing strategies’, ‘regulation strategies’, ‘personal agency’ and ‘information skills’ as a result of university education. In line with the existing evidence (Candy, 1991; Candy *et al.*, 1994; Pascarella & Terenzini, 2005) suggesting there might be improvements in students’ learning skills as they progress in higher education, it was expected that a systematic increase in

scores in dependent variables supportive of LLL might be found after Year 1 of the study. Improvements in mean scores were expected, for instance, for dependent variables related to lifelong learning such as 'deep processing' and 'self-regulation' learning strategies from the time students started their undergraduate university studies (that is, November 2010) and throughout their progression in higher education (that is, March 2012). Increased skills were also expected to be reflected in the mean scores of dependent variables related to students' personal agency such as 'personally interested' and 'self-test directed' learning orientations. Conversely, it was hypothesised that there might be a reduction in mean scores of dependent variables unsupportive of lifelong learning such as 'lack of regulation', 'external regulation', 'ambivalence' and 'certificate-directed' orientations as students progressed toward their second-year of study (that is, March 2012). Table 5.5 reports the results of the mean scores and standard deviations yielded in each of the two trials. It also reports the correlation between the mean scores over time and the results on paired *t*-tests and their effect size:-

Table 5.5 Changes in mean scores for processing strategies, regulation strategies & learning orientations between phase 1 and phase 2 for matched sample ($n=421$)

<i>ILS sub-scale</i>	<i>Phase 1 (December 2010) Mean (SD)</i>	<i>Phase 2 (March 2012) Mean (SD)</i>	<i>r(t₁, t₂)</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
Processing Strategies							
Deep processing	38.59(5.399)	38.52(5.717)	.379**	.245	390	.807	0.000
Stepwise processing	35.19(6.091)	33.25(6.028)	.392**	5.602	372	.000	0.078
Concrete processing	19.82(2.741)	19.68(2.530)	.280**	.876	406	.381	0.002
Regulation strategies							
Self-regulation	40.44(4.839)	39.45(5.601)	.571**	3.981	389	.000	0.012
External regulation	37.26(4.815)	35.57(4.656)	.355**	6.214	392	.000	0.049
Lack of regulation	12.31(3.666)	11.93(3.672)	.335**	1.683	391	.093	0.007
Learning Orientations							
Personally interested	13.44(3.148)	13.39(2.880)	.329**	.318	391	.751	0.000
Certificate-directed	16.80(4.017)	15.06(3.741)	.378**	8.029	395	.000	0.140
Self-test-directed	15.89(4.365)	14.14(3.904)	.428**	7.698	381	.000	0.135
Vocation-directed	21.15(2.954)	20.78(3.293)	.375**	2.108	395	.036	0.011
Ambivalent	10.76(3.638)	10.88(3.496)	.372**	-.607	374	.544	0.001

r (t_1 , t_2) signifies the correlation coefficient of learning strategies between Year 1 and Year 2

**Correlation is significant at the 0.01 level (2-tailed)

With regard to relationships, the results in Table 5.5 report correlations between the results in the first phase and those in the second, suggesting a degree of stability and consistency of scores in different ILS domains. Since the study involved the use of paired data, it would be expected that the correlations would be relatively high. However, as reported above, all correlations were significant even though the effect sizes differed in terms of magnitude. The scores on stability were relatively higher for 'self-regulation' and the lowest correlation was on the 'concrete processing' sub-scale. One possible reason for these relatively lower correlation coefficient values might be due to the fact that the values tend to decrease due to the time separation between the two administrations of the surveys.

5.3.3 Processing strategies

The results in relation to processing strategies indicated that there was a statistically significant reduction in mean scores over the course of the study with regard to 'stepwise processing', ($M1=35.19$, $SD1=6.091$; $M2=33.25$, $SD2=6.028$, $t(372)=5.602$, $p<.05$, $d=0.078$). According to Cohen's (1988) thresholds of effect sizes, where $d=0.01$ is considered small, $d=0.06$ is medium, and $d=0.14$ is considered to be a large effect, this was a medium effect size. No significant increase or decrease was found for 'concrete processing' and 'deep processing' sub-scales. As discussed in Chapter 8, one of the possible explanations for the reduction in the students' use of 'stepwise learning' strategies might be a decline in the use of 'memorising and rehearsing' strategies over time. The decrease in stepwise processing strategies is also in accordance with results in a previous study conducted by Severiens *et al.* (2001), which yielded mean scores of 2.85 in the first phase, and 2.81 in the second phase. These findings suggest that in both contexts (Tanzanian and Western), students tend to use less 'stepwise processing' in later years than when they first start studying. On the other hand, the absence of change in mean scores on 'deep' and 'concrete' learning strategies was also in accordance with previous findings by Severiens *et al.* (2001), in which the mean scores for 'deep learning' were 2.80 for the first phase, and 2.84 for the second phase. The slight changes found in Severiens *et al.*'s study suggest that the constructs such as deep learning processing take a much longer time to evolve. A study conducted by Donche *et al.* (2010) suggests that this might be due to the tendency among many academic departments to put more emphasis on factual knowledge, making it harder for students to change their study habits. In the present study, the lecturers' tendency to put more emphasis on factual information could be explained by the qualitative findings suggested in the interview comments by lecturers and university officials below: -

'If you demand too much then you find that you are spending a lot of time and you don't move forward. That is why you find that many people finally end up using lecture method' (*University official 3*)

'I think it is the same for all teachers. You want students to master a subject. For us, we want students to comprehend a subject' L21, (*Science*)

The qualitative interview comments from university staff above and those in Chapter 6 suggest the emphasis given to factual knowledge and the effect of lecturers' teaching and assessment practices, as well as the effect of the academic departmental culture and traditions, do not promote the development of deep processing strategies.

5.3.4 Regulation strategies

Concerning 'regulation strategies', as reported in Table 5.4, the results indicate that there was a statistically significant reduction in the mean scores on both the 'external regulation' and the 'self-regulation' sub-scales as students progressed into Year 2 of their studies. Even though the decrease in students' use of 'external regulation' strategies was expected, the reduction in the use of 'self-regulation' skills was in fact contrary to the hypotheses made earlier. One possible explanation for the reduction in 'self-regulation', however, might be the trend revealed in the qualitative findings indicating lecturers' preference for teacher-centred teaching approaches and their preference for content-based rather than learner-centred approaches (*see Chapter 6*). In a study conducted by Donche *et al.* (2010) in a Western context in which students are followed up for 3 consecutive years, only slight changes were found for unregulated learning and external regulation for the consecutive two years. In Donche *et al.* (2010)'s study the average mean scores for 'self-regulation' increased from 2.57 (phase 1) to 2.57 (phase 2), whereas the average mean scores for 'external regulation' decreased from 3.29 (phase 1) to 3.21 (phase 2). Similarly, the average mean scores for 'lack of regulation' decreased from 2.50 (phase 1) to 2.36 (phase 2). In this study, Donche *et al.* (2010) concluded that most significant changes occur after two years of study.

5.3.5 Learning orientations

Finally, with regard to learning orientations, a statistically significant reduction in mean scores was found for 'certificate-directed' learning orientation between phase 1 and phase 2 ($M1=16.80$, $SD1=4.017$; $M2=15.06$, $SD2=3.741$, $t(395)=8.029$, $p<.05$, $d=0.140$). Similarly, the results also indicated a statistically significant reduction in the mean scores for the 'self-test' learning sub-scale in Year 2 from Year 1 of the students' studies ($M2=14.14$, $SD2=3.904$; $M1=15.89$, $SD1=4.365$, t

(381=7.69), $p<.05$, $d=0.135$). Even though the reduction for 'self-test' orientation was unexpected, this might be due to the students' prevalent practices, revealed in the qualitative findings, indicating the students' reliance on lecturers for direction and content as opposed to relying on personal initiatives to test their own learning capabilities against the demands of higher education. The results in relation to a reduction in 'certificate-directed' learning orientation were in accordance with the assumptions made earlier suggesting that higher education learning aims should not emphasise solely the passing of examinations. This, however, might not be happening with lecturers' emphasising content. It is also possible that the reduction in scores on 'certificate-directed' orientation reflects a reduction in students' determination for passing examinations compared to their early years as mentioned below:

'A degree classification is a reflection of hard work; it can allow me to continue my studies at Master's level. This is the minimum requirement. The more you aim for a higher degree classification, the more your knowledge increases, because you tend to read more' S17, (*Sociology, year 1*)

The scores for the rest of the sub-scales in the ILS learning orientation scale, that is, 'ambivalence' and 'personally interested' yielded non-significant results.

Generally, as depicted above, the effect size obtained for the ILS ranged from small to large according to Cohen's (1988) thresholds of effect sizes, where $d=0.01$ effect size is considered small, $d=0.06$ medium, and $d=0.14$ large. For example, the effect size with regard to the 'stepwise processing' sub-scale seems to be medium that is, $d=0.078$. On the other hand, relatively large effect sizes were obtained for 'certificate-directed' and 'self-test' learning orientation sub-scales, (that is, $d=0.140$ and $d=0.135$ respectively). As for regulation strategies, a small effect size was found for 'self-regulation learning' strategies ($d=0.012$) and 'external regulation' strategies ($d=0.049$), suggesting that any real or practical influence was fairly small.

5.4 Information skills

With regard to 'information skills', a fundamental question was to find out whether or not there might be a significant increase, stability or decrease in the students' information skills such as in 'the ethical and legal use of information'

between phase 1 and phase 2. In addressing this question, further *t*-tests (paired sample) were performed to estimate the effect of higher education. As clarified earlier in this chapter, the analysis was based on Catts & Lau's (2008) information skills model assuming that students' information skills grow from the early stages of education through to graduate education and adult education (Figure 2.4). Based on this hypothetical model, it was hypothesised that there might be an increase in scores on all of the five ISS information skill sub-scales as students progressed from Year 1 into Year 2 of their studies. Table 5.6 reports the mean scores and standard deviations obtained after computing the *t*-test statistic: -

Table 5.6 Changes in mean scores on information skills for the two phases of data collection

	<i>Time 1</i> (December 2010)	<i>Time 2</i> (March 2012)	<i>r</i> (<i>t</i> ₁ , <i>t</i> ₂)*	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
Accessing information	15.63 (2.428)	16.30 (2.376)	.277**	-4.639	399	.000	0.058
Managing information	15.31 (2.761)	15.59 (2.631)	.425**	-1.968	400	.050	0.037
Ethical use of information	14.88(2.833)	15.56 (2.812)	.243**	-3.869	397	.000	0.036
Evaluating information	15.77(2.395)	16.10 (2.348)	.299**	-2.336	398	.020	0.014
Applying information	16.06 (2.274)	16.67 (2.180)	.201**	-4.309	400	.000	0.044

**r* (*t*₁, *t*₂) signifies the stability of information skills between time 1 and time 2

**Correlation is significant at the 0.01 level (2-tailed)

The results in relation to the steadiness of the ISS scores for the two administrations suggest the stability of scores on the 'managing information' sub-scale to be somewhat higher than the stability on the rest of the scores, suggesting the commonalities of this construct measured over time.

The paired sample *t*-statistic results in Table 5.6 indicate that on average the majority of the students acquired increased information skills and considered themselves to be becoming more proficient during Year 2 of their studies than they had felt themselves to be at the beginning of their studies or even prior to joining the University. A statistically significant increase was found in the 'ethical use of information', for which students reported improvements in information skills during Year 2 compared to Year 1 of the study (*M*₂=15.56,

$SD2=3.869; M1=14.88, SD1=2.833, t(397)=3.869, p<.05, d=.036$. A significant increase was also found for the ‘accessing information’ sub-scale, in which students reported improved proficiency during their second-year compared to Year 1 of their studies ($M2=16.30, SD2=2.376; M1=15.63, SD1=2.428, t(399)=4.639, p<.05, d=.058$). Finally, marginally statistically significant mean differences were also found for the ‘evaluating information’ dependent variable, in which students reported an increase in proficiencies during Year 2 of their studies compared to their ‘evaluating information’ skills reported during Year 1 ($M2=16.10, SD2=2.348; M1=15.77, SD1=2.395, t(398)=2.336, p<.05, d=.014$). No statistically significant increase was reported in ‘managing information’ and ‘applying information’ dependent variables. As the interview quote and the subsequent findings below suggest, the improvements in information skills could also be explained by qualitative findings: -

‘In year one I was completely unable to use the internet at all, even as they were telling us to register online. I couldn’t do anything on my own. I had to ask for assistance from someone. At least now even if we are told to apply for students’ loans online, I can do it on my own. I no longer need to be supported’ S4, (*Sociology, Year 2*)

As indicated in the discussion chapter, the improvements in information skills reported above might be due to the impact of university education and to interactions with peers, illustrated in the qualitative findings. Even though the quantitative results suggest relatively small effect sizes for the changes in the 3 ISS sub-scales (that is, ‘ethical use of information’ ($d=.036$), ‘accessing information’ skills ($d=.058$) and ‘evaluating information’, $d=.014$), the results nevertheless suggest an overall improvement in information skills resulting from higher education experiences. As discussed later in Chapter 8, the small effect sizes obtained were not surprising since most of the previous studies, such as Chachage (2001) and Lwehabura and Stilwell (2008), clearly attest to the cultural and historical effect on information literacy in the context of Tanzania. Those studies particularly suggest that the majority of students and the general public in Tanzania are marginalised in terms of access to information resources. Even though access to information resources appears to improve as students join higher education, the improvements in accessing information resources appear to be less than satisfactory, as revealed in the qualitative findings below (see also Section 5.13): -

'The major problem I am facing is the scarcity of computers; there are less than fifty PCs in our main library...I don't think if there are even more than 20 functioning, and the number of users is around 14,000' S17, (*Sociology, Year 2*)

'...you can't imagine that there are only 6 functioning computers in the library, the rest of the computers are just for searching references' S13, (*Accounting, Year 2*)

5.4.1 Pre-university information skills

As the previous section suggests, the qualitative data in this segment provided further confirmation that prior to joining the university the overwhelmingly majority of the participants felt that they had had no real exposure, access and experience in using information resources such as computers and the internet during their primary and secondary school education or in their families. Even among students who reported that they had had some access to information resources, the majority of them felt that they had only rudimentary information skills prior to joining the university. The intensity of the inadequacy students felt about their skills on access to the university is clearly illustrated by the interview comments such as those from S3, (*Science*), S4, (*Sociology*) and S10, (*Sociology*) below: -

'I have some experience, but it is just initial skills. I had no interest with computers at all during my secondary education...although there were some computers at secondary school, but you needed to pay in order to use them' S3, (*Science, Year 1*)

'...there were not any ICT facilities in my secondary school for me to practise. Most students used to learn how to use the internet soon after finishing A-level studies by joining short courses or just learning through the internet cafe S4, (*Sociology, Year 1*)

'I didn't go through any kind of formal training, just informal learning. Sometimes, I was helped by internet cafe assistants. I asked them for guidance and how to do some of the things' S10, (*Sociology, Year 1*)

It appears from these findings that in addition to inadequate information resources, the majority of students also had limited information skills due to a lack of initial training. The findings above suggest that the majority of the students relied on informal means of learning as their dominant way of acquiring information skills. As indicated later in the discussion chapter, the magnitude of

the problem in accessing information resources was also acknowledged in previous studies such as Comings (1995) and Lwehabura and Stilwell (2008). Findings further indicated that for some participants, the university was the initial place for them to touch and work with computers. Such was the case for participants such as **S6, (Science)** who reported to have never touched a computer either at school or with his family until he came to the university, as illustrated below: -

‘There was not any computer at the place of my origin. I live in a very remote area, once I want to use the internet, I normally ask for assistance and guidance from the internet café assistants. It is through them that I am assisted in whatever I want to do’ **S6, (Science, Year 1)**

It seems from these findings that the students’ pre-university access to the internet and computers also varies according to the students’ origins. Students from disadvantaged locations such as rural areas where student **S6** came from, for example, appeared to differ in terms of access from their counterparts coming from urban locations. Limited information skills, however, seemed to exist even among participants who reported some prior exposure to the use of computers and the internet. Most of the pre-university internet use for these students seemed to be primarily on activities such as social networking and games, as opposed to using the internet for learning activities, as reported below: -

‘Generally I was not using the internet for any academic work. Normally I was using it for downloading music and other entertainment and Facebook’ **S17, (Sociology, Year 1)**

Responses from transcripts, suggested that the majority of the students admitted that they had been entirely unable to use different computer and internet facilities prior to joining the university. It appears from the students’ interview comments that there was such a great lack of information and communication resources during the students’ pre-university education (that is, elementary, basic and secondary education levels) that the students’ development of lifelong learning skills was greatly curtailed. The comments from students, such as **S4, (Science)** and **S6 (Science)** above, suggest that the majority of students had no access to the internet and computers while at primary and secondary school. Some of the students’ comments also indicated

that the first time they came across internet and computer usage was the time they were applying for university admission using an online application system³⁴.

On the basis of these findings, it seems that the majority of students were not confident users of electronic information resources by the time they were joining the University due to a number of factors, namely: (1) poor family background, (2) primary school and secondary school pre-university experiences, (3) lack of training, and (4) personal attitude to computers and internet use. It could even be argued that poor pre-university information skills among students reflect the country's shortcomings in its basic education and secondary education systems in relation to the development of information skills, as suggested in Chapter 4.

5.5 Year 1 information skills

The qualitative data with regard to Year 1 information skills suggested that a considerable number of participants (61%) perceived themselves as having no experience in using information resources. As suggested in the previous section, participants who reported having some skills and access to information resources included those coming from middle class families such as those with a background in private schools, special schools, international schools and also in-service students. As discussed later in Chapter 8, a possible interpretation of the variations in students' access and levels of information skills might be the variations in students' socio-economic status. Even though some students reported having some information skills, findings indicated that the students' levels of information skills were generally low for the majority of them.

In terms of 'accessing information', and providing some degree of confirmation of the quantitative findings, the majority of the students reported limited levels of information skills citing the use of elementary information search engines such as Google rather than using sophisticated and discipline-specific databases and search engines. Students also reported that during Year 1 their use of internet was mainly for non-complicated administrative purposes such as course selection and course registration, as illustrated in the comments below: -

³⁴ For the first time in the history of the University admission system, students had to apply for admission using an online system in the year 2010 (during data collection for this project)

'...I use the internet mainly for registering university courses. Few lecturers send assignments by email. Only when we are compelled to respond by email is when we use it' S4, (*Sociology, Year 1*)

'In my O-level education (secondary) I was using the internet just for funny things like sending email, chatting and sending greeting cards to friends. Since I came here to the University, I have been using the internet mainly for searching materials, and things have accumulated now' S10, (*Engineering, Year 1*)

'I use the internet for searching for materials to supplement lecture notes and when doing some assignments. I also spend a lot of time on Facebook, when I finish downloading learning materials' S5, (*Accounting, Year 1*)

'It is mainly about searching for information related to different topics and assignments given in the class and the use of different websites such as Google or Wikipedia' S14, (*Engineering, Year 1*)

As Chapter 6 indicates, for some students, it was not until they had been compelled by contextual circumstances such as being forced by lecturers to process assignments using computers and then submit them via e-mail that they actually had to start using computers and the internet. This suggests that for some students, as proposed by Vermunt and Vermetten (2004), the motivation to use information resources mainly depended on external influences (or regulations) from lecturers or on the nature of the assignments given.

In relation to 'evaluating' and to the 'ethical use of information' skills, and again providing some confirmation of the quantitative findings reported earlier, the majority of students identified their Year 1 skills as being at a rudimentary level. Many students, for example, admitted that they had no knowledge of what the notion of 'legal and ethical use of information resources' meant or about the proper way of acknowledging sources. For most of the students interviewed (*nearly 55%*), the 'ethical use of information' seemed to be a relatively unfamiliar concept, as suggested in the interview comment below: -

'I don't think there is anything I need to consider. No, I am not aware if there any such rules. When I read a book from the internet, I just take everything. Maybe if it is a very long passage, then I have to take some few points. If it is a short passage, I just copy it as it is' S3, (*Science, Year 1*)

The qualitative findings above with regard to the students' limited ethical use of information could probably explain why there was only a small effect size for this construct during Year 1 of the study. The findings in this section also suggested that only a few of the interviewed students perceived themselves as having skills in 'evaluating the information' sources accessed, as illustrated below: -

'When I am given assignments, I search for information from different sources. I compare one with another and then see what to take and what to leave' S7, (*Science, Year 1*)

'One of the important things is to judge and decide whether or not the materials I have found are valid. I can do this by comparing them with the lecture notes I have' S9, (*Accounting, Year 1*)

Even though the findings above suggest some sense of students' skills in 'evaluating information', both the qualitative and quantitative findings seem to show that the majority of the participants had little or no skills in 'evaluating information'. Perhaps the Year 1 students' low level of information skills could be due to these students' poor information literacy background in their family and school, as discussed earlier.

5.6 Pre-university and Year 1 entrepreneurial skills

With regard to students' pre-university entrepreneurial skills, the qualitative data revealed that only a few participants (*about 30%*) reported having some experience in engaging in entrepreneurial activities during their time as secondary school students or after the completion of their studies prior to joining the university. Their prior engagement in entrepreneurial activities, for example, could be demonstrated in the following interview comments: -

'...the last time I participated was when I was in my A-level (secondary education). We used to visit various community centres and street children centres several times. We used also to assist them with their needs. We even visited a juvenile prison once' S14, (*Engineering*)

'I currently do not participate in such activities. I had been involved in several activities of this nature before coming here, however. Our school had a motto that '*we have to help others*'. We used to go out of the school, helping people in hospitals and sometimes working with orphans' S19, (*Engineering*)

'I'm no longer engaging in any other activity apart from my formal studies. Prior to coming to university I was working on a tea plantation on a part-time basis. I stopped just after being enrolled here at the university' S10, (*Sociology*)

Findings here indicate that some students (*about 30%*) had been participating in activities such as community volunteering organised by their schools and had had part-time jobs after the completion of their secondary school education. However, as indicated in the subsequent sections, almost all of the participants reported less engagement in such entrepreneurial activities from the time they joined the University, compared to their pre-university time. The majority of the participants reported that there was almost a complete disengagement from entrepreneurial activities during Year 1 of the study, as noted below: -

'No, apart from my studies, I am not involved in any other kind of part-time work' S14, (*Engineering, Year 1*)

'I don't see anywhere I am engaged may be at my church, because even in my church I am doing very little' S12, (*Science, Year 1*)

These findings suggest a trend where despite the students' engagement with social entrepreneurial activities during their secondary education or after completion of their secondary education, the majority of them ceased to take part in entrepreneurial activities after joining the university. As the subsequent sections indicate, one possible reason for students' disengagement from entrepreneurial activities might be the absence of established entrepreneurial structures and policy strategies, as revealed in Chapter 4.

5.6.1 Social entrepreneurial activities in informal organisations and networks

The findings also indicate that the only activity reported by the participants as one form of entrepreneurial activities during Year 1 was the participation in university student networks and organisations. During the interview, participants (*about 30% of them*) reported their participation in students' organisations and

networks such as environmental clubs and students' professional networks; these affiliations purported to be important avenues for entrepreneurial skills development, as reported below: -

'The maximum I can do while at the University is to join students' organisations. I am a member of an organisation known as UDAWICOSA. I am not even sure what it stands for' S7, (*Science, Year 1*)

'I recently joined the Dar-es-Salaam University Sociological Students' Associations (DASUSA). I am sure the association will be dealing with social and community issues and that is why I decided to join' S2, (*Sociology, Year 1*)

The interview comments above suggest that the students' informal engagement with university-based organisations constituted an important pathway for the development of entrepreneurial skills. Despite the lack of formal entrepreneurial skills development policies and structures noted in Chapter 4, participants nevertheless felt that their engagement with informal organisations and networks was important for the development of personal attributes such as self-confidence, public speaking skills and networking skills. One of the implications of these findings is the importance of emphasising informal learning structures to ensure the absolute development of LLL skills (Coffield, 2000a). However, whereas on the one hand these findings suggest the importance of informal learning, another possible explanation for the students' engagement in informal entrepreneurial activities might also be the shortcomings in the university education system and the inadequacy of university formal structures to promote students' entrepreneurial skills and competences. As the discussion chapter indicates, the findings with regard to the importance of informal learning of entrepreneurial skills were in accordance with Rae's (1999, p. 184) framework suggesting the importance of 'social learning from others' as a core feature of the entrepreneurial skills development (*See Figure 2.5*).

5.7 Year 2 information skills and entrepreneurial skills

To comprehend the changes even further, participants were asked while in Year 2 of their studies (approximately a year later) to reflect about any changes they might have noticed. With regard to information skills, the qualitative findings

revealed the presence of some changes in their information skills after one year of being at the university, as illustrated below:-

‘...in my first-year, my use of the internet was very poor. I was computer literate but I was not adequately competent. Even my typing skills were very poor. It was real tough for me in my first-year’ S17 (*Sociology, Year 2*)

‘The first time for me to use the internet was here at the University. Now I have knowledge of internet use. In my first-year I was using the internet for only a few tasks and my use was really low’ S20 (*Accounting, Year 2*)

As suggested in the interview comments above, almost 65% of the interviewed students felt that there had been significant improvements in their overall information skills as they progressed into Year 2 of their studies. However, since many of the reported changes were mainly among the students who had initially reported as having no skills at all, the results might be associated with the quantitative results, which indicated that there were no significant improvements in information skills in components such as ‘managing information’ and ‘accessing information; (*Section 5.4*). The qualitative findings, for example, suggested that there were no changes among students in relation to the tools they were using for searching for information between Year 1 and Year 2, as reflected in the comment by student S14 (*Engineering, Year 2*) below: -

‘...I use the internet for searching for materials using Wikipedia, Google etc. When I get questions, I search on the internet. Sometimes I can download books. Sometimes I use sources we have been given during lectures’ S14, (*Engineering, Year 2*)

The findings indicated that, even though the participants’ acknowledged a perceived change in their overall information skills, fewer perceptions of change were demonstrated in some of the information skills such as the ‘ethical use of information’, the ‘ability to evaluate information’, and the ‘ability to manage’ information resources. None of the interviewed participants reported any changes in terms of their use of advanced or specialised search engines or indexes and databases such as ERIC or other international encyclopaedia tools for accessing information sources. One possible interpretation as to why there were no changes in these components might be due to less emphasis being given

by academic departments and lecturers to the higher level of information skills such as evaluating information in the early years of undergraduate education.

With regard to Year 2 'entrepreneurial skills', participants were asked about any noticed changes or improvements in components related to entrepreneurial skills such as the ability to 'initiate their own plans' and their involvement in 'part time jobs' and in 'voluntary activities' since the previous year. As the interview comments below suggest, no evidence of any change in students' 'entrepreneurial skills' was found among almost all of the 23 students: -

'I am not working on a part time basis. I have been busy with my timetable, so I am not getting enough time for this purpose' S20, (*Accounting, Year 2*)

'I am not engaging in any other kind of activity. I have yet to discover any channel for such jobs and the time is very limited' S17 (*Sociology, Year 2*)

'No it is very hard for me to engage in any activity during the term. Maybe during the vacation I can try to do something, but not now' S14, (*Engineering, Year 2*)

The interview quotes above illustrate the lack of improvements in entrepreneurial skills even after students have stayed at the university for one year. The lack of change in students' entrepreneurial skills, however, might be associated with several personal and institutional barriers that are to be discussed later in this chapter.

5.8 Consistency and variability by age and gender over time

Having looked at Year 1 and Year 2 variability and consistency for the whole sample at a global level, it seemed worthwhile to consider individual variables such as age and gender and to discover whether or not they might have an influence on lifelong learning skills over time. For example, as the results reported in *Appendix 'B'* suggest, there was a significant change for males over time with regard to 'processing strategies', suggesting that male students were less likely to use a surface approach to learning as compared to female students.

With regard to 'regulation strategies', there was a significant decrease over time for males in all of the three regulation strategy dependent variables: 'self-regulation', 'external regulation' and 'lack of regulation'. Although previous studies have suggested that females are historically and culturally less confident and more likely to be externally regulated than males, the results in the present study indicated that over time there was a decrease in the use of 'external regulation' strategies among females. The results, for example, did not confirm the previous findings by Minnaert (1999), which indicated that the fear of failure plays a more inhibitory, detrimental role in effective self-regulation for female than for male students. One possible interpretation of the significant decrease in 'external regulation' dependent variable for females might be due to the impact of the university education they received.

In relation to 'learning orientations', there was a significant reduction in 'self-test' orientation and an increase in 'certificate-directed' orientation for both male and female students. However, only for males was there also an increase over time in 'vocation-directed' orientation. As indicated in the discussion chapter, a possible interpretation for the increase in scores for 'vocation-directed' orientation for males might be the traditional dominance of males in the labour market compared to females who are traditionally mainly engaged in subsistence and farming and domestic chores (Masanja, 2004; Meena, 1996; Mlama, 2005).

Finally, in relation to 'information skills', there was significant increase over time for both males and females for three constructs, namely, 'applying information', the 'ethical use of information', and the 'accessing of information'. However, only for females there was also a significant increase in other constructs, namely, 'evaluating' and 'managing' information. One of the possible interpretations for such an increase in female scores on all of the information skills might also be related to cultural reasons because traditionally females are less likely to have overall engagement and attainment in school compared to males (Masanja, 2004). One would in fact expect to see more changes among female students because they are starting from a lower level of engagement and attainment whereas males are more likely to be engaged in schooling.

In relation to age differences between time 1 and time 2, there was a statistically significant decrease in the use of ‘processing strategies’ for the younger age students in relation to the ‘stepwise processing’ dependent variable (see Appendix ‘C’). A significant reduction over time was also noted for younger age students in two of the ‘regulation strategies’ sub-scales: ‘self-regulation’ and ‘external regulation’.

As for learning orientations, a significant reduction was noted for younger age students in three sub-scales, namely, ‘vocation-directed’ learning, ‘self-test interested’ and ‘certificate-directed’ orientation. The only statistically significant increase over time for older students in relation to the ILS scale was in the ‘personally-interested’ sub-scale. The significant increase in being ‘personally interested’ for older students was consistent with the findings by Vermunt (2005) that suggest that older students more often consult other sources than the prescribed syllabus and they also tend to associate learning more with constructing their own knowledge and insights than younger students do. The results, however, did not confirm the findings by Vermunt (2005) indicating that older students were more likely than younger students to use ‘deep processing’ strategies, to study out of personal interest, and to use a ‘self-regulation’ strategy. The inconsistent results observed in the present study could be explained by the Tanzanian effect of cultural context discussed earlier in this chapter. With regard to ‘information skills’, however, there was a significant increase over time for both young age and older students in ‘ethical information use’ and in ‘accessing information’. However, only for young age students was there a significant increase in ‘applying information’. As indicated in the discussion chapter, a possible reason for this increase might be variations in the levels of engagement with information resources and the internet. Research in the Tanzanian context shows that the level of engagement with information is much higher for the young age population than for the older ones and for males than females (Chachage, 2001; Masanja, 2004).

5.9 General university experience over time

The qualitative findings in relation to the broad university impact on students suggest that there were mixed views and diverse feelings among participants about their learning experiences over time. Whereas the majority of the

participants (*about 60%*) felt that they had experienced some kind of change as a result of the higher education they were pursuing, some students felt that they had experienced changes only in some of the components. Others even reported that there had not been any changes experienced at all. Participants who noticed changes, for example, reported as follows.

‘I think the University has contributed to shaping me. I can now argue with someone with strong arguments. I was not like this before’ S15, (*Sociology, Year 2*)

‘Being here for two years now, I have learnt many things. I hope this experience will help me for many years. I have learnt how to interact with my fellows. I have also gained skills in identifying problems in the society’ S6, (*Science, Year 2*)

‘...I can now meet and talk to lecturers at any time. In my first-year it was like...‘What can a student tell his doctor?’ There is nothing you can tell him. I was not confident to ask anything. Because you *find that your level of education is very minimal, what will you ask?*’ S19, (*Engineering, Year 2*)

As the above comments suggest, the changes reported included improvements in components such as increased students’ confidence, socialisation and interactions. The reported changes in socialisation and interaction seem to be consistent with the findings in previous studies, which indicated that college attendance have an impact on students, including ‘changes in relating to others and the external world’ (see, Pascarella & Terenzini, 1991; Pascarella & Terenzini, 2005). Some participants, however, felt that they had experienced changes only in some of the aspects of learning but not in other components (including their engagement with entrepreneurial activities), as reported below:

-

‘...I don’t think there are any changes in the way I am learning and studying. Most of the things are the same’ S14, (*Engineering, Year 2*)

‘For me I think that there is not much difference. The only difference is that in the first-year you find that there were a lot more courses than now’ S20 (*Accounting, Year 2*)

The interview comments above suggest that some participants experienced change in some aspects of LLL while others did not. The findings in this segment therefore seem to confirm the quantitative results reported earlier suggesting

the general presence of both variability and consistency as a result of students' one-year experience of learning at the University.

5.10 Difficulties, barriers and limitations in students' development of lifelong learning abilities

Since the findings in this chapter suggested the presence of marginal improvements in some of the LLL constructs and the non-existence of improvements in other constructs such as entrepreneurial skills, the study explored further the possible reasons for these results. From the qualitative interview findings, a number of concerns, difficulties and limitations experienced were reported, as indicated below: -

5.10.1 Limited access and general lack of information resources: *'only half an hour to use computers'*

In relation to information resources, even though the findings in this study suggested that the concerns about access and the lack of information resources were shared across all of the research participants; it seems that the ramifications of the impacts of limited resources were more felt among students. The majority of the interviewed students repeatedly cited the limited access to information resources to be one of the major limitations for the development of information skills and other LLL skills. As reported earlier, the majority of participants also felt that the information resources such as computers were few and disproportionate to the number of students, as the interview comments below suggest: -

'...You need to book and remain on a waiting list until someone finishes, there are very few computers. We are given only half-an-hour to use computers. When the half-an-hour lapses, already there is someone on your back! Searching for materials for half-an-hour only is almost impossible for one to decide what materials to take and what to leave' S3, (*Science*)

'There are very few computers compared to the demand. When you go to the library, you are given a maximum of half-an-hour to use the resources. This is very little time for you to accomplish everything you want' S15, (*Sociology*)

‘You waste a lot of time on a waiting list for computers. It is sometimes wise to go for the paying option and access computers in the internet cafe than waiting to find one in the University library’ S16, (*Sociology*)

As noted in the quantitative results, the marginal improvement in the information skills of students could also be explained by the above qualitative findings, which suggest that the university had inadequate information resources. It appears that participants experienced numerous difficulties and limitations relating to access and use of information resources such as computers and the internet. Some of the major limitations reported by the students included malfunctioning computers, inadequate computers disproportionate to the number of users, and a limited time allowed for internet use.

The majority of the interviewed participants also reported problems with regard to limited access and unreliable and poor wireless internet coverage in most of the campus locations. Only a few participants believed that they could afford the commercial internet broadband option. The concerns among the participants also included problems related to the limited access to on-line materials such as journals due to University’s failure to subscribe to such journals, as illustrated in the comments below: -

‘The major difficulty I am facing here is internet access. It is not reliable. It may take you up to four hours just to search for only a few materials’ S2, (*Sociology*)

‘Even if you have your own laptop in your room, it is difficult to use it because there are no options for wireless connection’ S1, (*Engineering*)

As the interview comments by students’ S2 and S1 suggest, it appears that the majority of the students had inadequate access to information resources and infrastructure. As the discussion chapter suggests, a possible explanation for this inadequate access to resources might include the historical and cultural realities in terms of scarce resources among African countries like Tanzania, which has been acknowledged in previous studies (see, for example, Lewin, 2009; Lwehabura & Stilwell, 2008).

5.10.2 Socio-economic status and access to information resources: *'I'm from a very remote area'*

As reported earlier in this chapter, the qualitative findings suggested that the students' access to information resources was also associated with their socio-economic status backgrounds. The students coming from relatively better socio-economic backgrounds seemed to stand a better chance of accessing information resources than their counterparts from lower socio-economic levels, including those from rural areas. Students who had studied in private schools and those coming from affluent families, for example, seemed to have more possibilities for accessing information resources and developing information skills than the rest of participants, as suggested in the comments below: -

'I learnt computer skills since I was in primary school in Kenya. When I went to A-level also, there were computer labs - so I gained some experience there' S19, (*Engineering*)

'Back home my brothers have laptops and a modem. I have been learning using their laptops' S5, (*Accounting*)

'My brother, who is studying here, has a computer and a modem. I have been practising several times during vacations on how to use a computer until I became familiar with it' S1, (*Engineering*)

By contrast, interview comments from some of the underprivileged and those with relatively low socio-economic backgrounds suggested that they had a lower level of information skills and less access to information resources. Evidence with regard to poor information skills and inadequate access was evinced through comments by students such as S6, (*Science, from a rural area*) who candidly pointed out that: -

I'm from a very remote area, and it is difficult for me to access any kind of internet resources. I have absolutely no experience in using the internet, when I want to use the internet, I normally ask for assistance from the people in the internet café S6, (*Science*)

The findings above show the effect of socio-economic backgrounds on students' access to information resources. Compared to students coming from middle-income families such as S19, the underprivileged and less affluent students such as S6 seem to have less access to information resources. The findings also suggest the presence of more possibilities for the acquisition of information skills

among students coming from private schools and international schools than for the rest of the students, who were from public schools or from rural areas. It is evident from these findings that the variations in students' information skills and access could be explained by the participants' context and socio-economic status.

5.10.3 Personal and structural factors influencing the adoption and development of some LLL skills

The findings also suggested that the students' engagement in lifelong learning ventures was influenced by various personal and structural factors. With regard to engagement in entrepreneurial activities, the students mentioned the effect of personal factors and limitations such as 'unfamiliarity with the university environment and the surrounding communities' (especially during the first-year of study), 'lack of capital', and 'lack of time'. Likewise, participants mentioned motives such as 'the need to gain job experiences', 'the intention to help the government to do its activities' (S17), 'chances for interaction and learning' (S4), sharing experiences (S18), exposure to opportunities (S9), gaining confidence (S5), and the need to know many issues in society & expand understanding of community issues (S15) for them to engage in entrepreneurial activities, as suggested below: -

'No I don't engage in any part-time job for now, and I don't think I need to engage in one. This is because I need to be serious with my studies and make sure that I finish my studies first. I can't mix two things together: this is the major reason' S1, (*Engineering*)

'First of all, I am strange to this city. I am not familiar with many things; so I don't know how I should start. Secondly, my studies are very tight, my study schedule is very tight, I have many tests announced week after week, and it becomes very difficult for me' S18, (*Accounting*)

'To be sincere, it is because I don't have any interest in part-time jobs. So I wouldn't make any effort to look for one' S14, (*Engineering*)

Volunteering activities are very important for networking purposes. They enable me to know many people I never knew before. You can even meet different international students' S11, (*Engineering*)

The findings above suggest the influence of personal factors such as 'participants' willingness', 'personal attitudes', 'incentives provided' and 'personal interest' affecting the likelihood of them engaging in entrepreneurial activities. It seems from these findings that the students' development of entrepreneurial skills can also be explained in the context of both students' personal factors such as attitudes and interest and institutional contextual factors.

With regard to structural and institutional barriers to engagement in entrepreneurial activities, participants mentioned limitations such as 'the lack of opportunities and chances for them to get engaged', 'the tight university formal studies schedule', 'poor arrangements' and 'irrelevant course contents on offer', as illustrated below: -

'I wish there could be some organisations with volunteering opportunities or those seeking volunteers. I also take so many courses that make me somehow busy; I don't want to carry over these courses. I need to put in a lot of much effort. I don't think I can take part in voluntary activities' S15, (*Sociology*)

The findings here suggest that there was an influence from contextual factors on students' willingness to engage in entrepreneurial activities. These factors seem to emanate from both the structural problems within the university and other structural environment problems external to the university. Participants raised concerns such as 'the lack of facilitation', 'unawareness', and 'the absence of entrepreneurial' activities or organisations offering volunteering opportunities'. The findings in relation to the absence of institutional mechanisms for supporting students' entrepreneurial skills were also confirmed by some of the University elite policy makers, as revealed below: -

'At the college we don't have such activities. Students' activities in the community? Not any that I am aware of! But I am aware that our students are attached to different fieldworks where they can work with communities. I am not aware of any voluntary activities taking place at college level' P4, (*Science*)

It appears from these findings that there is a lack of institutional and structural mechanisms to furnish students with a suitable and adequately supportive environment for them to effectively and actively engage in entrepreneurial

activities. Even though the university mentioned in its university mission statement the need for students to develop entrepreneurial skills (*Chapter 4*), it appears that there are inadequate structures that in themselves are necessary to support students' engagement in entrepreneurial activities; this includes the lack of a flexible university formal academic environment. These findings might also provide a likely reason for the non-significant change noticed in entrepreneurial activities among students between Year 1 and Year 2.

5.11 Chapter summary

In this chapter the stability and variations in students' mean scores for 'processing strategies', 'regulation strategies', 'information skills', 'learning orientations' and 'entrepreneurial skills' between time 1 and time 2 were examined on the basis of the underlying assumption that the mean scores of such skills might vary as students progressed in higher education.

The findings with regard to processing strategies suggest that regardless of the context, students tend to use fewer memorising skills in later years than when they first start studying. Similarly, with regard to university promotion of 'deep learning', the findings suggest that the academic departments tend to put more emphasis on factual knowledge in the early years of higher education as opposed to emphasis on 'deep learning'. With regard to regulation strategies, the results on reduction of 'external regulation' were consistent with the findings in a study by Donche et al. (2010) conducted in a western context.

The findings with regard to 'learning orientations' indicated a statistically significant reduction over time on the 'certificate-directed' and 'self-test learning' orientations. Even though the decrease in 'certificate-directed' was as hypothesised, the decrease in the 'self-test learning' orientation was contrary to earlier expectations. The effect sizes for these changes in these sub-scales ranged from small to large. One of the possible reasons for the decrease in 'self-test learning' orientation over time might be because of a prevalent tendency among academic departments to put less emphasis on students' abilities for self-judging of learning, as revealed in the qualitative findings.

The findings in relation to ‘information skills’ suggest that nearly all participants experienced some kind of change over time. Statistically significant differences were found for 3 ISS sub-scales, namely, ‘accessing information’, ‘using information ethically’, and ‘evaluating information’, all with a small effect size. One of the possible explanations for the small effect size could be the poor and historic marginalisation of Tanzanian students and less access to information resources, as revealed in the qualitative findings relating to their experiences prior and after entering higher education. Interestingly, similar findings were also reported in previous studies (see, for example, Chachage, 2001; Lewin, 2009).

In terms of ‘entrepreneurial skills’, the findings indicated that there was a declining trend in the students’ engagement in entrepreneurial activities. Approximately 35% of the interviewed students reported engagement in social entrepreneurial activities such as community volunteering during their secondary education but not during Year 1 and Year 2 of their university studies. The only form of entrepreneurial activities reported by about 30% of the students was participation in informal students’ organisations and networks within the university. The findings revealing students’ non-involvement in entrepreneurial activities raise a broader question about the relevance of the courses on offer in the context of fostering entrepreneurial skills; this issue was also raised in previous studies by Kirby (2004) and Mwasalwiba *et al.* (2012). On the other hand, the findings confirmed the relevance of informal learning and informal structures in fostering lifelong learning skills. The findings clearly indicated the role of informal learning, particularly in students’ development of entrepreneurial skills.

With respect to gender and age comparisons over time, the longitudinal data indicated that there were significant gender and age variations for some of the ILS and ISS independent variables between Year 1 and Year 2. The results indicated that there was a significant decrease in the use of ‘external regulation’ strategies for female students as compared to male students, and this was interpreted as to be the likely influence of higher education. Findings indicated also that male students were less likely than female students to use a surface approach over time. However, although some variations in gender and

age over time were observed, the effect size of these changes was relatively small (*Appendices 'B' & 'C'*).

In conclusion, the longitudinal study findings in this chapter seem to confirm some of the initial theoretical assumptions about students' development of LLL attributes and reveal some important patterns and trends but the findings did not confirm others. In spite of the negligible changes observed, some consistency and variations were observed in the ILS and ISS sub-scales. Even though the effect sizes were relatively small, the longitudinal findings in this study suggest that the students' development of LLL is more effective when students participate in higher education. Some of the barriers to students' development of LLL attributes revealed in this chapter included not only structural, institutional and personal factors but also poverty and the acute shortage of resources.

Chapter 6

Personal and contextual variables influencing students' 'learning-to-learn' skills, 'personal agency', 'information skills' and 'entrepreneurial skills'

6 Introduction

This chapter examines the personal and contextual variables influencing lifelong learning attributes, namely: 'learning-to-learn', 'personal agency', 'information skills' and 'entrepreneurial skills'. Whereas the previous chapter examined the variability and consistency of LLL scores between phase 1 and phase 2 using longitudinal data, this chapter addresses a research question concerning the effect of personal and contextual variables on lifelong learning attributes. In contrast to the previous chapter, the focus here is on the cross-sectional data. Three objectives are addressed in this chapter: first, the influence of personal beliefs on LLL attributes; second, contextual differences in the ILS and ISS scales mean scores based on the theoretical assumptions suggested in the literature; and finally, whether or not different ascribed characteristics such as age and gender are important in explaining the students' development of LLL attributes.

6.1 Research question

The investigation of the effect of personal and contextual factors on learning in this chapter is based on evidence in the literature (for example, Becher, 1989; Entwistle & Ramsden, 1981; Neumann & Becher, 2002) suggesting the likely influence of contextual variables such as academic disciplines and assessment procedures. In particular, this study aims to establish whether or not there are significant differences in undergraduate students' perceptions of their lifelong learning proficiencies, dependent on age, gender, academic disciplines or other variables.

6.2 Data and analysis procedures

As reported in Chapter 3, the procedures for the examination of the individual and contextual variables influencing LLL attributes in this chapter involved the use of both uni-variate and multi-variate test statistics. Data were gathered from students ($n=421$) registered in the four theoretically distinct academic disciplines, namely, soft-applied, that is, Accounting ($n=101$), hard-applied, that is, Engineering ($n=169$), hard-pure, that is, Science ($n=59$), and soft-pure, that is, Sociology ($n=92$). As indicated below, of the 421 students, 118 (28%) were females and 297 (72%) were males (*Table 6.1*).

Table 6.1 Students' demographic characteristics

<i>Independent Variable</i>	<i>Category</i>	<i>Participants</i>	<i>%</i>
Gender*	Male	297	72
	Female	118	28
Age**	20-23	355	86
	24-33	59	14
Academic Department	Accounting	101	24
	Engineering	169	40
	Science	59	14
	Sociology	92	22

*Data were missing for some gender responses therefore denominator contains 415 students.

**Some responses had missing data on age therefore the denominator contains 414 students

With regard to the effect of gender and age, the analysis procedures involved comparing mean scores between samples using the *t-test* statistic (independent samples) with an alpha significance level criterion of .05 ($\alpha = .05$). Additionally, the effects of academic disciplines were examined through performing a series of multi-variate analyses of variances (MANOVA) on the ISS and ILS scales, carrying out separate uni-variate ANOVA's as well as running suitable *post-hoc* analyses. Finally, to test for an association between 'personal agency' and 'processing' and 'regulation' strategies, Pearson's product-moment correlations were performed. This was intended to assess the relationship between scores on learning orientations and the rest of the ILS and ISS variables.

As noted earlier in Chapter 3, the quantitative data were used concurrently with the qualitative data in order to triangulate the findings. With regard to the

qualitative study, as in the previous chapter, the data were drawn from two main sources: the researcher's field notes and interview transcriptions (students ($n=23$); lecturers ($n=26$); policy elite ($n=3$); and administrators ($n=10$)). Among the students interviewed, six (26%) were female, and seventeen (74%) were male. The distribution of the interviewed students in terms of academic disciplines was as follows: Accounting ($n=7$), Engineering ($n=5$), Science ($n=6$) and Sociology ($n=5$).

6.3 Results

The results presented in this segment comprise both the quantitative and qualitative components of the study³⁵.

6.3.1 The association between 'personal agency' and 'processing strategies', 'regulation strategies' and 'information skills'

On the basis of previous studies (for example, Billett & Pavolva, 2005; Chen, 2006; Ecclestone, 2009; Zimmerman & Cleary, 2006) that suggested the possible influence of students' personal beliefs on their choice of learning approaches and learning strategies, the study examined the correlation between these variables. Based on the above assumptions, for example, it was expected that a high positive correlation might be found between students' 'learning orientation' variables such as 'personally interested' and 'self-test interested', and 'processing strategies' and 'regulation strategies' supportive of LLL such as 'deep processing strategies', 'self-regulation' and 'information skills'. Conversely, a negative correlation was expected between undirected learning variables such as 'ambivalence' and 'lack of regulation' and variables related to lifelong learning such as 'deep processing', 'self-regulation strategies' and 'information skills'. Table 6.2 shows a summary of Pearson's product moment correlation coefficient results.

³⁵ Where differences are reported, effect size has also been used. Statistical significance is sensitive to sample size, and differences that are too small to be of practical interest can emerge as significant. Effect size is a way of evaluating whether or not a difference is not only significant, but of substantive importance (Buckley, 2013, p. 9).

Table 6.2 Pearson's product-moment correlations between learning orientations and the rest of the ILS and ISS sub-scales

	1	2	3	4	5	6	7	8	9	10	11
(1) Deep processing	-										
(2) Stepwise processing	.52**	-									
(3) Concrete processing	.59**	.44**	-								
(4) Self-Regulation	.59**	.37**	.46**	-							
(5) External regulation	.38**	.44**	.40**	.46**	-						
(6) Lack of regulation	-.21**	.03	-.13**	-.32**	-.09**	-					
(7) Personally interested	.01**	.28**	.15**	.02	.17**	.23**	-				
(8) Certificate-directed	.01	.26**	.09**	.03	.27**	.15**	.34**	-			
(9) Self-test interested.	.10**	.28**	.16**	.12**	.21**	.13**	.44**	.34**	-		
(10) Vocation-Directed	.17**	.24**	.23**	.18**	.29**	-.05	.17**	.31**	.26**	-	
(11) Ambivalence	-.18**	-.02	-.08*	-.26**	-.11**	.48**	.30**	.31**	.13**	-.12**	-
(12) Information Skills	.65**	.42**	.56**	.59**	.38**	-.20**	-.20	.01	.11**	.13**	-.20**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

As reported in Table 6.2, the Pearson's correlation results relating to processing strategies suggest that the 'deep processing strategies' had a strong positive significant correlation with the 'concrete processing' strategies, $r=.59$, ($p<.05$) but were significantly negatively correlated with both the 'ambivalence', $r=-.18$, ($p<.05$) and the 'lack of regulation' strategies, $r=-.21$, ($p<.05$), although the strength of the relationship was weak. Similar results were also found for 'stepwise processing' strategies, in which a strong significant positive correlation was found between 'stepwise processing' and 'concrete processing', $r=.44$, ($p<.05$).

With regard to 'regulation strategies', the Pearson's correlation results indicated that the 'self-regulation' skills had a strong significant positive correlation with 'deep processing' strategies, $r=.59$, ($p<.05$). This suggests that the students with higher scores on 'regulation skills' were also likely to use 'deep processing' skills. The results further indicated that the 'self-regulation' skills had strong positive significant correlation with 'external regulation', $r=.46$, ($p<.05$) and 'information skills', $r=.49$, ($p<.05$) but were moderately negatively correlated with 'lack of regulation', $r=-.32$, ($p<.05$). A strong significant positive correlation was also found between 'external regulation' and 'stepwise' strategies, $r=.44$, ($p<.05$) and 'concrete processing', $r=.40$, ($p<.05$). However, on the other hand,

the results indicated a weak negative significant correlation between 'external regulation' and 'lack of regulation', $r = -.09$, ($p < .05$) and 'ambivalence', $r = -.11$, ($p < .05$). Likewise, a strong positive significant correlation was also found between the 'lack of regulation' and 'ambivalence' learning orientation, $r = .48$, ($p < .05$), suggesting that students with higher scores on 'ambivalence' learning orientations were also likely to lack regulation strategies.

Finally, in relation to 'information skills', the Pearson's correlation coefficient results indicated that there was a strong significant positive correlation between information skills and all of the variables on the processing strategies scale, namely: 'deep processing' strategies, $r = .65$, ($p < .05$), 'stepwise processing' strategies, $r = .42$, ($p < .05$) and 'concrete processing' strategies, $r = .52$, ($p < .05$). A strong positive and significant correlation was also found between the 'information skills' and the 'self-regulation skills', $r = .49$, ($p < .05$). One of the possible reasons for the higher correlation between 'information skills' and 'self-regulation' might be the importance of information skills in fostering independent learning. The high correlation between 'information skills' and the processing and regulation strategies might also suggest the centrality of information skills in fostering almost all of the learning strategies. Contrary to the above results, however, a weak negative and significant correlation was found between 'information skills' and 'ambivalence' learning orientation, $r = -.20$, ($p < .05$) and the 'lack of regulation' strategies, $r = -.20$, ($p < .05$). As initially hypothesised, the Pearson correlation results revealed a non-significant correlation between 'information skills' and dissonant variables such as 'certificate-directed' and 'ambivalence' learning orientations.

6.3.2 The effect of gender

The study investigated the effect of gender on different ILS and ISS latent variables, namely, 'processing strategies', 'regulation strategies', 'learning orientations' and 'information skills'. Previous studies on the effect of gender on learning have reported inconsistent results. Whereas studies by Zeegers (2001) and Richardson (1993) had reported non-significant gender differences in the 'processing strategies' and in 'regulation strategies', other studies such as Severiens *et al.* (1998) reported significant differences in learning between sexes. A study by Severiens *et al.* (1998) reported significantly higher scores on

‘undirected learning’ for men but not for women. Paradoxically, this study reported significantly higher scores on ‘reproduction-directed learning’ for females but not for men. Considering the inconsistent results reported in these studies, no attempt was made in the present study to predict the direction of the ILS and ISS sub-scales’ mean scores in relation to the effects of gender. As reported earlier, in this study the investigation of the influence of gender involved 297 male and 118 female undergraduate students from the four academic departments, namely, Accounting, Engineering, Science and Sociology. The *t*-test statistic (independent samples) was performed to determine the effect of gender on the different ILS sub-scales. Table 6.3 shows the mean and standard deviation scores on the effect of gender differences for the first phase of data collection.

Table 6.3 Phase 1 means and standard deviations for males and females on the ILS and ISS sub-scales

Sub-scale	Gender		Independent sample test			
	Male (n=297)	Female (n=118)	t	df	p	Cohen's D
	M (SD)	M (SD)				
Processing strategies						
Deep processing	39.02 (5.266)	37.49 (5.568)	2.538	203.369	0.012	0.28
Stepwise processing	35.60 (5.920)	34.00 (6.255)	2.328	197.001	0.021	0.27
Concrete processing	20.00 (2.607)	19.28 (2.998)	2.408	408	0.016	0.26
Regulation strategies						
Self-regulation	40.51 (4.487)	40.20 (5.506)	.536	179.597	0.592	0.06
External regulation	37.24 (5.025)	37.28 (4.539)	-.079	226.744	0.012	0.01
Lack of regulation	12.49 (3.646)	11.80 (3.640)	1.722	220.950	0.937	0.19
Learning Orientation						
Personally interested	13.52 (3.175)	13.24 (3.071)	.816	216.149	0.415	0.09
Certificate-directed	16.66 (4.106)	17.10 (3.797)	-1.008	217.855	0.315	0.11
Self-test directed	15.98 (4.426)	15.81 (4.138)	.378	217.993	0.705	0.04
Vocation-directed	21.18 (2.953)	21.18 (2.915)	.027	209.811	0.979	0.00
Ambivalent	10.90 (3.767)	10.37 (3.213)	1.392	234.695	0.165	0.14
Information skills						
Applying information	16.19 (2.249)	15.75 (2.374)	1.716	203.665	0.088	0.19
Evaluating information	15.96 (2.294)	15.21 (2.751)	2.809	408	0.005	0.31
Ethical use of inform	14.86 (2.873)	14.92 (2.776)	-.214	217.769	0.831	0.02
Accessing information	15.74 (2.370)	15.36 (2.602)	1.372	194.642	0.172	0.16
Managing inform.	15.27 (2.790)	15.27 (2.759)	-.024	215.768	0.981	0.01

As the data in Table 6.3 suggest, there were significant differences in mean scores according to gender in the ILS ‘processing’ strategies scale on the sub-scales of ‘deep’, ‘stepwise’ and ‘concrete processing’ in the first phase of the study. The male students had significantly higher mean scores than the female students on ‘deep’, ‘stepwise’ and ‘concrete processing’, although the effect size was small. The results also indicate that there were significant gender

differences in the 'regulation strategies'. Female students had significantly higher scores on 'external regulation' strategy than male students had. As noted earlier in this chapter, one of the possible reasons for the high scores on 'external regulation' for females could be the fact that in their Year 1 of their studies, women tend to experience more anxiety about study success than men, and they may depend more on teachers or the institution to organise their learning (see Minnaert, 1999; Severiens *et al.*, 1998). With regard to learning orientations, the findings indicated that there were no significant differences according to gender in all of the five sub-scales.

Finally, with regard to 'information skills', there were significant gender differences on the 'evaluating information' skills sub-scale, in which male students scored higher than female students. However, no significant gender differences were found on the rest of the ISS sub-scales, namely, 'accessing information', 'managing information', 'ethical use of information' and 'applying information'. As the discussion chapter suggests, one of the possible reasons for male higher scores on the 'evaluating information' sub-scale might be due to historical, cultural and traditional reasons in Tanzania, suggesting that males have more exposure to information sources than females (Chachage, 2001).

The results with regard to the second phase indicated that there were no significant differences in mean scores according to gender for the ILS scales on 'processing' and 'regulation' strategies (*see Appendix 'E'*). However, there were significant differences for some of the 'learning orientation' sub-scales, namely, 'certificate-directed' and 'vocation-directed' learning. Female students had significantly higher mean scores on 'certificate-directed' and 'vocation-directed' learning orientations, although each had small effect sizes (*see Appendix 'E'*). Additionally, no significant gender differences were found on any of the ISS sub-scales. The possible reasons for this absence of gender differences and for the differences in some of the dependent variables can be partly explained by the findings in the qualitative study suggesting that gender was a less important predictor of students' information skills. The majority of the interviewed students (both females and males) believed that gender differences did not matter a lot in learning: -

'Most of us feel that some courses are appropriate only for men. When females join such courses, they tend to lose confidence. Even though science seems to be very difficult for me, I believe it is not due to my situation as a woman' S22, (*female - Sociology*)

'I don't see any difference. I think the differences are due to historical and cultural realities - it depends on someone's secondary and primary school background. Females, for instance, are participating in domestic work. I think it is an individual thing. Sometimes it is about the culture' S3, (*female-Science*)

'Females in Engineering differ from the rest. They don't have time to waste, not much time to chat, not much time to mingle. A good thing with females is they don't fail. They have a tendency to care much. Or maybe it is because they have some kind of phobia. This is different from males who take some of the issues lightly S11, (*male-Engineering*)

The interview comments above from both male and female students suggest that for the majority of students there were no gender differences in learning since many of the gender differences seemed to be more ascribed to personal attitudes. Despite the fact that some of the participants noted some gender differences, it nevertheless seems that the differences pointed out were more related to the students' cultural attitudes, without having much effect on the students' adoption of learning approaches and strategies. Some students, for example, felt that courses such as Sociology were more identified with females than with males due to the nature of the courses and the students' prospects for soft jobs. Even though the findings indicate that the 'pure-hard' disciplines and 'applied hard' disciplines such as Science and Engineering were more identified with male students, participants felt that the differences were mainly artificial due to factors such as 'the lack of confidence' (S22), 'the effect of historical attitudes toward female students learning abilities' (S3) and the traditional unbalanced domestic burden among females, also revealed in the previous chapter. Furthermore, the results suggest that the effect of students' gender variations in learning seems to decline as students progressed into higher education, suggesting the diminishing importance of gender differences on learning over time (*Appendix 'B'*).

6.3.3 The influence of age

The other aspect to be examined in the present study was the influence of age differences on the students' adoption of 'processing strategies', 'regulation strategies', 'learning orientations' and 'information skills'. In addressing this research question, the information on students' ages was used as an independent variable, and the data from the students' self-report scores on eleven (11) ILS and five (5) ISS sub-scales were used as dependent variables. Since the data indicated that the ages for the majority of the participants ranged between 19 and 23, and only a few of them reported their ages to be over 24 years of age, the age ranges were re-categorised into two major age groups, 20-23 ($n=355$) and 24-33 ($n=59$) to be suitable for meaningful analysis. Table 6.4 reports the t -values, means scores and standard deviations from the computed t -test statistic for the first phase.

Table 6.4 Phase 1 means, standard deviations and t -test statistic values for students' age differences

Sub-scale	Age group		Independent sample test			
	20-23 ($n=355$)	24-33 ($n=59$)	t	df	p	Cohen's D
	M (SD)	M (SD)				
Processing strategies						
Deep processing	38.67 (5.416)	37.83 (5.262)	1.098	397	0.273	0.16
Stepwise processing	35.29 (6.109)	34.17 (5.740)	1.297	391	0.195	0.18
Concrete processing	19.72 (2.812)	20.07 (2.281)	-	90.548	0.303	0.13
			1.036			
Regulation Strategies						
Self-regulation	40.49 (4.966)	40.07 (3.627)	.612	402	0.541	0.09
External regulation	37.29 (4.791)	36.93 (5.531)	.472	72.050	0.638	0.07
Lack of regulation	12.27(3.672)	12.47(3.614)	-.381	78.112	0.704	0.05
Learning orientations						
Personally interested	13.62 (3.149)	12.44 (3.002)	2.667	401	0.008	0.38
Certificate-directed	17.04 (3.930)	15.25 (4.240)	3.162	397	0.002	0.45
Self-test directed	16.12 (4.278)	14.81 (4.592)	2.122	399	0.034	0.30
Vocation-directed	21.26 (2.927)	20.66 (2.986)	1.412	399	0.159	0.20
Ambivalent	10.76 (3.600)	10.67 (3.833)	0.180	389	0.857	0.02
Information skills						
Applying information	16.09 (2.327)	15.95 (2.081)	.486	82.492	0.628	0.06
Evaluating information	15.80 (2.516)	15.45 (2.062)	1.154	87.715	0.252	0.14
Ethical use of inform	14.94 (2.818)	14.46 (2.996)	1.160	76.356	0.250	0.17
Accessing information	15.66 (2.512)	15.49 (1.974)	.587	88.340	0.558	0.07
Managing information	15.30 (2.819)	15.15 (2.531)	.401	84.250	0.689	0.05

As Table 6.4 shows, there were no significant differences in the mean scores according to age, for 'deep', 'stepwise' or 'concrete' processing in the first phase of the study. There were, however, significant differences for some of the variables in the learning orientation sub-scale in the ILS. The younger age group

had significantly higher mean scores on ‘personally interested’, ‘certificate-directed’ and ‘self-test directed’, and each had small to moderate effect sizes. There were again no significant differences according to age on any of the regulation strategies sub-scales. In addition, there were no significant differences according to age on any of the ‘information skills’ sub-scales.

With regard to the second phase, the findings indicated that there were no significant differences in the mean scores according to age for ‘processing strategies’, ‘regulation strategies’, ‘learning orientation’ and ‘information skills’ sub-scales (see Appendix ‘D’). One of the possible explanations for the lack of significant age differences in Year 2 of studies might be the fact that describing oneself in terms of age as younger or older does not influence the extent to which particular learning styles are adopted as students proceed through higher education.

In general with regard to gender and age, the results suggest the presence of more variability between gender and age during Year 1 of the study than in Year 2. The results also indicate that on average the majority of the effect size yielded relatively small values and only a few of them were medium. As suggested in the discussion chapter, the gender and age variability observed might probably be explained by the students’ pre-university cultural and family and school contextual factors.

6.3.4 The effect of academic disciplines on ‘processing strategies’, ‘regulation strategies’, ‘learning orientations’, ‘information skills’ and ‘entrepreneurial skills’

The other component to be examined in the present study was the effect of academic discipline contextual variables on the LLL dependent variables, namely, ‘processing strategies’, ‘regulation strategies’, and ‘learning orientations’. As stated earlier in this chapter, the participants for this study were deliberately recruited from four theoretically distinct disciplines so as to allow a ‘comparative inquiry’ (Przeworski & Teune, 1994, p. 31) of the effects of the academic disciplines (Becher, 1989). These participants included undergraduate students ($n=421$), registered in the following academic

disciplines: 'applied-soft' (Accounting, $n=101$), 'applied-hard' (Engineering, $n=169$), 'pure-hard' (Science, $n=59$), and 'pure-soft' (Sociology, $n=92$).

In order to confirm whether or not the MANOVA test assumptions had been satisfied, preliminary statistical analyses were performed prior to running a multivariate analysis (MANOVA). This involved an examination of the uni-variate normality for each of the ILS scales' dependent variables and also performing a series of Pearson correlations among all of the dependent variables (Field, 2009). As can be seen on Table 6.2, a meaningful pattern of correlation was observed amongst most of the dependent variables. As can be seen in the Appendix 'Q', the preliminary assumptions checking, assessed by the Shapiro-Wilk test, showed that the condition of normality was satisfied for most of the ILS dependent variables, except for 'concrete processing and 'vocation-directed'. There was a very small number of univariate and multivariate outliers, as assessed by boxplot and Mahalanobis distance ($p>.001$) respectively, but it was nevertheless decided to include the outliers in the analysis anyway, as it was not believed these outliers would materially affect the result³⁶. There was an approximate linear relationship in each school, as assessed by scatterplot. Additionally, the Box's test of equality of covariance matrices (M-value) of 18.060 ($p=.471$) were obtained for 'processing strategies', 67.535 ($p=.024$) for 'learning orientations', and 10.771 ($p=.911$) for 'regulation strategies', and these were interpreted as being non-significant, based on Huberty and Petoskey (2000)'s guidelines, that is, ($p>.005$). These results suggested that the hypotheses of equal covariance matrices could not be rejected, and the assumptions were therefore not violated. Subsequent analyses performed included running a series of one-way multi-variate analyses on each of the three dependent variables on the ILS scales, namely, 'processing strategies', 'regulation strategies' and 'learning orientations'.

With regard to 'processing strategies', the MANOVA results indicated that there was a multivariate effect of academic disciplines on the processing strategies scale, $F(9, 924)=3.270$, $p<.05$; Wilk's $\lambda^{37}=.927$, partial $\eta^2^{38}=.025$. The homogeneity

³⁶ The test was run without the multivariate outliers and did not make any real difference to the results.

³⁷ test statistic in MANOVA used to test the Null hypothesis that the group means are all equal

of variance results ($p > .05$) for all of the three sub-scales, namely, 'deep processing', 'stepwise processing' and 'concrete processing', was non-significant. The disciplines students enrolled in had a statistically significant effect on both the deep learning strategies, $F(3, 382) = 4.567$; $p < .01$; partial $\eta^2 = .035$) and the 'concrete processing' strategies, $F(3, 382) = 6.566$; $p < .001$; partial $\eta^2 = .049$) but not on the 'stepwise processing' strategies ($p = .253$). Pair-wise comparisons (Bonferroni adjustment for multiple comparisons) indicated that students from Science had the highest scores of the four academic disciplines on 'deep processing' strategies, whereas accounting students scored the lowest. In relation to 'concrete processing', Sociology students had the highest scores of the four academic disciplines, and again accounting had the lowest.

The above quantitative results indicating the disciplinary differences in students' 'processing' strategies could also be explained by the qualitative findings. With regard to 'deep processing', the qualitative findings suggested that participants from 'pure hard' academic disciplines such as Science and Engineering felt that their academic specialisations demanded the use of unique approaches to learning. Such participants frequently mentioned expressions such as 'it is a difficult course' or 'it is demanding' to illustrate the distinctiveness of their courses. As illustrated in the interview quote below, the findings might suggest the unique processing strategies science students adopt in studying: -

'...I think Engineering unlike other courses is tough. It is a demanding course. It is somehow a different course and it is difficult to compare it with other subjects or courses' S1, (*Science*)

Academic disciplinary distinctiveness could also be seen in the comments given by students undertaking double major options such as **S3 (female, Science, also opting for Development Studies)**, who believed that there were significant disciplinary differences in the learning approaches adopted between the two distinct courses, as illustrated below: -

³⁸ a measure of the magnitude of the effect on variables, where .01 is small, 0.06 is medium and 0.14 is large

'In DS unlike in Science, I don't study in detail. You just study briefly and then you go for discussion. Then you are ready for the exam' S3, (*Science*)

'Science subjects unlike arts subjects demand a lot in terms of effort. Of course, I don't mean that arts subjects are completely easy. But Science students have to put in a big effort to reach the targets unlike those in the arts' S12, (*Science*)

'I think for some subjects like Sociology you don't need to expend much effort. You can just learn anyhow' S21, (*Accounting*)

The interview comments above seem to confirm the quantitative results, suggesting the likelihood for science students to adopt 'deep processing' strategies as opposed to students from the rest of the academic disciplines. The interview comments by students such as S12 (*Science*) and S3 (*Sociology*) suggest that there were contrasting perceptions of approaches adopted in learning. Students believed that unlike other academic disciplines, 'pure-hard' disciplines required extra efforts since the courses were more difficult than others. Similar comments were also made by some lecturers, who believed that academic disciplines such as Engineering demanded the use of unique teaching approaches and possibly different approaches to learning as illustrated below: -

'Engineering is a new area to most students; they come from secondary school where they are learning other subjects like pure and natural sciences. So when they join Engineering, it is different from those who specialise in Science. You have to give them the basics to facilitate their understanding' L1, (*Engineering*)

The findings above suggest that the academic disciplines students pursue might have an influence on the choices made by both students and lecturers in relation to the learning and teaching approaches to be adopted respectively, especially for the deep learning processes.

In relation to 'regulation strategies', the MANOVA results indicated that there was no multivariate effect of academic disciplines on students' regulation strategies, $F(9, 905)=3.270$, $p>.05$; Wilk's $\lambda=.969$, partial $\eta^2=.011$. These results seem to show that students across academic disciplines did not perceive any differences in their learning regulation strategies (that is, self-regulation, external regulation and lack of regulation), suggesting that students across academic disciplines use similar learning regulation strategies. The absence of

significant academic disciplinary differences could also be explained by the qualitative findings, which revealed that the majority of the students lacked self-organising and planning skills, as illustrated below: -

‘I have no timetable. I just wake up in the morning and think of things to do; I can’t have a timetable because sometimes I am not in a mood for studying’ S15, (*Sociology*)

‘I just have a rough idea of how I will do things the next day, or if I cannot plan a day before I just plan in the morning. It is very hard to be consistent here at the University’ S14, (*Engineering*)

‘It is very difficult and complicated to make a time table in a University setting, you can plan today and then you are given another assignment’ S16, (*Accounting*)

As the above findings suggest, for the majority of the participants, the lack of self-organising and personal planning was partly attributed to the university’s unfavourable learning environment, including unaccommodating lecturers and departmental traditions. With regard to self-organising skills, the majority of the interviewed lecturers acknowledged that there were numerous impediments to the students’ development of self-regulation of learning strategies. The data suggested that neither the academic departments nor the teaching approaches adopted were supporting students with those skills as illustrated below: -

‘Basically there is not an aspect like that. I think there is not any opportunity for them to plan’ L2, (*Engineering*)

‘No, that is not done, and the reason is that we have a university prospectus; we have a university calendar, which summarises the major topics that are supposed to be covered’ L5, (*Accounting*)

As the above data suggest, the majority of the students were lacking skills for the self-regulation of their learning partly because of the influence of contextual factors such as lecturers and academic departmental traditions. It also seems that the majority of the lecturers were reluctant to accept responsibility for supporting students with the development of learning strategies such as the self-evaluation of learning. This was revealed during an interview with lecturer **L12**, (*Sociology*), who commented that: ‘you have been repeatedly using the word to ‘help students’; these students are not supposed to be helped; it is a two-way traffic!’ These comments suggest the non-compliance with lecturers’

responsibility to facilitate students' learning (Hager & Holland, 2006). Likewise, the comments by lecturer *L5*, (*Accounting*), and *L12*, (*Sociology*) suggest that the lecturers' intentions are to stick to their traditional teaching roles, which are primarily based on merely fulfilling the task of delivery of the university-prescribed formal contents and on dispensing knowledge.

Finally, with regard to 'learning orientations', the results indicated that there was a statistical significant multi-variate effect from academic departments on students' learning orientations, $F(15, 985)=2.727, p<.05$; Wilk's $\lambda=0.894$, partial $\eta^2=.037$. The homogeneity of variance for 'vocation-directed', 'certificate-directed', 'ambivalent' and 'self-test' oriented learning orientation was not significant, ($p>0.05$). The homogeneity of variance, however, was significant for 'personally interested' learning orientation, ($P<.05$). Whereas the 'vocation-directed' and 'certificate-directed' learning orientations indicated statistically significant results, ($p<.05$), non-statistically significant results were found for other dependent variables, namely, 'ambivalence', 'self-test' oriented and 'personally interested', ($p>.05$). Pair-wise comparisons (*Gabriel*) indicated that mean scores for 'vocation-directed' orientation were statistically significantly higher for Engineering students than the mean scores obtained for students from Accounting, Science and Sociology, ($p<.05$). In relation to 'certificate-directed' learning orientation, mean scores for Science were significantly higher than scores for students from other academic disciplines, ($p<.05$). One of the possible interpretations for the higher scores on 'vocation-directed' orientation for engineering students might be the differences in students' job pathways, for engineering students could be having a more immediate specialist job pathway motivation than students from other disciplines. Similarly, the other possible reasons for higher scores on 'certificate-directed' orientation for Science students might be the high motivation for them to pass exams and acquire credit points and degrees.

Table 6.5 Mean scores for processing strategies, regulation strategies and learning orientations by academic disciplines

<i>Scale</i>	<i>Levene's test</i>		<i>ANOVA</i>		η^2	<i>Applied hard (Engn)</i>	<i>Pure hard (Sci)</i>	<i>Pure soft (Socio)</i>	<i>Applied soft (Acco)</i>
	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>		<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>
<i>Processing strategies</i>									
Deep Processing	.843	.471	4.567	.004	.035	38.78 (5.829)	39.71 (5.044)	39.29 (5.120)	36.74 (5.959)
Stepwise processing	.904	.439	1.364	.253	.011	33.67 (6.157)	34.02 (5.820)	32.85 (6.338)	32.36 (5.460)
Concrete Processing	1.228	.299	6.566	.000	.049	19.92 (2.729)	20.36 (2.040)	20.37 (2.220)	18.95 (2.603)
<i>Regulation Strategies</i>									
Self-regulation	.537	.657	2.431	.065	.019	39.84 (5.138)	40.73 (5.149)	39.63 (6.070)	38.34 (5.675)
External regulation	1.083	.356	.290	.832	.002	35.90 (4.773)	35.94 (3.842)	35.52 (5.833)	35.37 (4.543)
Lack of regulation	.087	.967	2.498	.059	.020	11.81 (3.643)	10.79 (3.455)	12.25 (3.630)	12.41 (3.691)
<i>Learning Orientation</i>									
Personally interested	6.298	.000	.844	.471	.007	13.64 (3.213)	13.38 (2.784)	13.06 (2.053)	13.22 (2.721)
Certificate-directed	.104	.958	3.373	.019	.027	14.78 (3.741)	16.02 (3.583)	15.72 (3.661)	14.33 (3.668)
Self-test directed	.758	.518	2.424	.066	.020	14.77 (3.939)	14.26 (4.050)	14.19 (3.675)	13.40 (3.412)
Vocation-directed	1.206	.307	5.054	.002	.040	21.69 (2.967)	20.46 (3.677)	20.38 (3.308)	20.29 (3.292)
Ambivalent	.187	.905	.174	.914	.001	10.67 (3.532)	11.02 (3.750)	10.95 (3.464)	10.80 (3.467)

Note: N=421, η^2 =partial eta squared

The results on students' learning orientations could also be explained by the qualitative findings on students' personal beliefs about their motivation for learning, which suggested that more than 60% of the interviewed students were mainly oriented by external motivation to learn. During interview many times students cited various expressions suggesting the dominance of external and 'certificate-directed' learning orientations. With regard to their motives for undertaking higher education, for example, students believed that achieving a higher 'Grade Point Average' (GPA) was a crucial measure for success, suggesting their preference for 'certificate-directed' learning orientation and 'external motivation' to learning, as illustrated below: -

‘Without focusing on GPA it is almost impossible to have a motivation for studying. When you aim at having a higher GPA, it will make you be serious with studying’ S12, (*Science*)

‘It reflects one’s seriousness to one’s studies and it can show somebody that you have learnt something. If you compete for a job with a higher GPA, you stand a chance to win!’ S19, (*Engineering*)

The major thing I am expecting from the University is the general knowledge. That is the major thing I want. When you have a certificate from a University like this, it becomes easier even to get a job’, S7, (*Science*)

The findings above suggest the students’ concerns for passing examinations to be the main source of motivation for learning and a major justification for being at the University. Students also reported the importance of increasing knowledge as their major goal for being at the University, implying their preference for the use of ‘surface learning’ approaches. The findings further indicated that for some other students, the learning orientation and the justification for being at the university was ‘ambivalent’, as disclosed in the interview quotes below: -

‘...I have no any particular target, but I will be most grateful if I will secure not less than an upper second’ S14, (*Engineering*)

‘...I need university education because I performed well. I deserve to be here; if not, I could be in other types of colleges’ S13, (*Accounting*)

As suggested above, these findings seem to confirm the quantitative results, which indicated that the majority of students scored higher on the external motivation for learning. The students’ comments, indicating their dependence on the university as a place for equipping them with knowledge and content useful for future, could also suggest the dominance of the front-loaded model of education.

The prevalence of ‘external regulation’ learning strategies among the majority of the students was also revealed through the qualitative findings focusing on the assessment and personal judging of learning skills. Quite a substantial number of students interviewed (*about 60%*) candidly acknowledged their primary reliance on drilling and memorisation as their principal methods for revising their studies. In particular, most participants cited reviewing past

papers as the fundamental approach used for judging their learning, suggesting the dominance of rote learning, as reported below: -

‘Probably by solving past papers or maybe when a friend asks you a question, there are a lot of things to learn, sometimes I learn things and put them aside until the time there is a paper, then you start revising’ S19, (*Engineering*)

‘We go through past papers, but I can’t say that this is the major approach; I have to go through materials and then go through past papers to see how the questions are asked’ S20, (*Accounting*)

It appears from these findings, however, that the students’ reliance on rote learning methods and their lack of self-assessment skills were also influenced by departmental traditions and the lack of support from lecturers. As noted earlier in this chapter, the majority of academics and of the policy elite (*almost 60%*) acknowledged their non-compliance with the duty of supporting students’ learning beyond the provision of formal structured teaching and learning. The majority of the lecturers felt that they were merely obliged to comply with the formal teaching and assessment procedures, as illustrated below: -

‘...we don’t expect that students will assess themselves. There are tests, there is homework, there are also course objectives for each course, in which students have to ask themselves to see if they can at least meet the objectives of a particular course’ L4, (*Engineering*)

‘...not exactly, I don’t have anything of that nature; normally I just use the normal tests and assignments’ L3, (*Science*)

‘It is a bit difficult to make them assess their progress by themselves, and I don’t do that. If opportunities were there, we could have been doing it’ L11, (*Sociology*)

The findings above suggest a lack of emphasis on facilitating students’ self-assessment of learning, which might also be the reason why the majority of students seemed to prefer the use of ‘external regulation’ strategies and expressed a preference for being regulated by elements such as examinations, assignments, lecturers’ guidelines and course requirements. Participants also revealed that many of the university tests required them to reproduce what was taught in class as accurately as possible. As stated earlier in Chapter 5, the students’ reliance on externally regulated learning suggests the students’ major

focus to be on external orchestration, that is, mainly relying on course objectives, and the directions and questions teachers offered (Vermunt 2003), as illustrated in the comments below: -

‘During a test, first of all I have to read everything according to what was taught by the lecturer. I repeat this several times to make sure that I understand. Even lecturers usually insist that they will focus on what was taught in class, saying that to pass this exam you need to buy this or that book!’ S21, (*Accounting*)

‘To be sincere, for me the lecturers’ notes have to come first. I never take any other book as a starting point when I am preparing for a test. I must be sincere; the exams do not come in that way. They (lecturers) need us to reproduce [what we have learnt]’ S17, (*Sociology*)

The findings above suggest participants’ reliance on externally regulated learning strategies and reveal students’ motives for passing examinations, that is, ‘certificate-directed’ learning orientation. As noted earlier, however, these findings also might suggest the influence of lecturers and of assessment procedures in line with the students’ inclination for externally regulated learning strategies.

With regard to the ‘information skills’ scale, the preliminary assumption checking, as assessed by Shapiro-Wilk (see Appendix ‘Q’), revealed that the assumption of normality was not sufficiently satisfied to enable MANOVA statistics to be carried out. Additionally, the preliminary assumption check carried out using the box test of equality of covariance showed that the assumption of homogeneity of covariance for the five ISS sub-scales was not met. These results showed that the M value of 81.816 was obtained and was associated with a p -value of .001, which was interpreted as significant at ($p < .005$) and suggested that the assumptions were not justified, and the multivariate analyses could not be carried out. One of the possible interpretations for these results could be the fact that participants from the four academic disciplines (Accounting, Engineering, Science and Sociology) exhibited a somewhat balanced level of information skills.

The lack of clarity in the effect of students’ disciplinary differences on information skills revealed in the quantitative data could also be explained

through the qualitative findings, which suggested that the contextual variables such as lecturers and friends constituted more important predictors of the students' differences in information skills than the academic disciplines. The qualitative findings also revealed that the students' information skills could differ depending on the variations in lecturers' teaching practices and strategies, as reported below: -

'...some lecturers prefer to send assignments via email. So you must have an access to the internet' S3, (*Sociology*)

'...there have been a lot of assignments and therefore increased use of the internet. We also have the problem of scarcity of lecturers. So we have to depend on using the internet' S12, (*Science*)

'...in our course we are not required to acknowledge the sources of the materials we are using. Maybe that is for other courses, not us' S11, (*Engineering*)

The participants' comments above show the lecturers' variations in the emphasis given on the use of information resources, suggesting that there might be variations in the learning outcomes and students' willingness to use information resources.

With regard to 'entrepreneurial skills', in order to construe the possible reasons for the students' minimal engagement levels in entrepreneurial activities, as revealed earlier in Chapter 5, the connection between the university's courses and the entrepreneurial activities was examined. The aspects explored included issues such as whether or not the courses studied were helping students to develop entrepreneurial abilities such as 'taking personal initiatives' and 'exhibiting self-employment skills'. Contrasting opinions were expressed by participants from distinct disciplines. Distinctions were especially noted between students from business and non-business academic disciplines, as suggested in the interview comments below: -

'Courses such as Introduction to Business can help me to develop skills such as working as a retailer as well as developing qualities I may need for business. Even courses such as Accounting can help me to calculate profits for my business' S9, (*Accounting*)

‘...I take courses such as philosophy and political science. I mainly study about thinkers and theoretical perspectives. There is not much to do with things like entrepreneurial skills or self-employment’ (S10, *Sociology*)

The above interview comments indicate contrasting perceptions between Business and non-Business academic disciplines in relation to the relevance of university courses. Unlike students from non-Business disciplines such as Sociology, students from Accounting felt that courses such as ‘Accounting’, ‘Introduction to Business’, and ‘Marketing’ were relevant to the promotion of entrepreneurial skills. A similar pattern of findings was noted among Engineering students, who believed that courses such as ‘Surveying’ and ‘Architecture’ constituted some elements of entrepreneurial activities. It appears from the participants’ comments, however, that most of the university courses were generally irrelevant to entrepreneurial skills development. The findings with regard to this irrelevance of university courses are also similar to the findings in a study by Mwasalwiba *et al.* (2012) and Kirby (2004), indicating that many university courses were irrelevant partly because of the unfamiliarity of entrepreneurship as a field of study. The findings in the present study indicated that the majority of the university courses were basically geared to preparing students to become perfect employees, as illustrated in the interview quotes below:-

‘We are aiming at high-quality graduates who can compete in the market and who actually will perform up to the satisfaction of the market’ (*Senior university official 1*)

‘It doesn’t give them such skills; we just focus on classroom activities. We just teach them to know more about the contents’ (L3, *Science*)

‘...courses like Sales Management can help someone to start a business. There was one course in the past, for example, that could allow students to prepare training materials and teach, and they could earn some money’ L5, (*Accounting*)

The interview comments by Senior university official 1 and Lecturer L3 (*Science*) above suggest the university’s emphasis is on the students’ acquisition of formal job skills as opposed to being on gaining entrepreneurial skills. By contrast, the comments by lecturer L5 (*Accounting*) above appear to be almost identical to the Accounting students’ comments above, which suggests the relevance of

accounting courses to entrepreneurial activities. The interview comments from participants from the disciplines of Science and Sociology were quite dissimilar from those from Accounting. These findings suggest that there was an influence of academic departments' traditions on the students' development of entrepreneurial skills (Neumann & Becher, 2002).

Contrasting disciplinary effects were also noted in terms of students' perceptions of their motives and enthusiasm to engage in entrepreneurial activities such as 'community volunteering'. Despite the absence of entrepreneurial skills, noted in Chapter 5, the analysis of comments showed that there were contrasting motives for students to engage in volunteering social entrepreneurial activities across the academic disciplines. The majority of the interviewed Sociology students, for example, believed that their motives to engage in voluntary activities were more altruistic, as illustrated here: -

'I am willing to work in the community; it is a useful thing to do. The other thing is to gain work experience. Engaging in such activities allows me to gain work experience' S17, (*Sociology*)

By contrast, the motives reported by the majority of students from disciplines other than Sociology seemed to be more based on external incentives and personal gains such as 'enriching their CVs' and 'getting an opportunity to network with other people' as their main orientation for volunteering as illustrated below: -

'...these activities contribute to my CV. People know that you have been involved in such activities, but also when you go there you get an opportunity to interact with many people. I need more money, but also I can't stay idle. For four weeks I am at home, how can I stay idle? I have to work' S11, (*Engineering*)

'...when you go to work in future you may find that a similar job to the one you volunteered for exists, and you may need to apply your past experience from volunteering' S21, (*Accounting*)

The findings above suggest that students from 'soft-pure' courses (Sociology) were more altruistically motivated to engage in entrepreneurial activities than their counterpart students from non-sociological academic disciplines. Even though some of the participants from Sociology such as S17 also mentioned aspects related to personal motives such as 'gaining experience' for engaging in

voluntary activities, the majority of them, however, still seemed to be more driven by their motives to work in the community. These findings therefore suggest that there were two major distinct dispositions driving students to engage in entrepreneurial activities within their disciplinary areas: the altruistic and the extrinsic.

6.3.5 Social factors and self-influence on lifelong learning

As noted earlier in Chapter 2 and showing consistency with existing social constructive theoretical evidence (for example, Engstrom, 1999; Vygotsky, 1978, 1986) showing the function of the social construction of knowledge in learning, the findings in the present study revealed that there was an influence of socio-cultural contextual factors on learning. It was evident from these findings that the students' learning was influenced by the different kinds of socio-cultural structures within and outside the university. Participants such as *S23 (Pure soft)* demonstrated the centrality of social support with comments such as: 'receiving support is inescapable'. 'I can't do it on my own'. 'I seek support from both my fellow students in discussion and from lecturers'. As can be seen in Table 6.6, even though different forms of support were identified from the findings, three principal kinds of socio-cultural contextual support for learning specifically seemed to be most significant. These were: (1) the family (2) friends, and (3) University staff.

Table 6.6 Principal sources for socio-cultural influence on lifelong learning as perceived by students

source	Support
Family (parents, siblings, guardians)	<ul style="list-style-type: none"> • encouragement • emotional support • material support & financial support
Friends, peers and acquaintances	<ul style="list-style-type: none"> • share study materials, especially scarce materials • share learning difficulties • living experiences • encouragement, for example, when failed. • emotional support, for example, when stressed • financial support, for example, when in need • collaborative learning
University staff	<ul style="list-style-type: none"> • lecture notes support • reading materials, for example, books, advice • clarification during lectures Support when in need of materials, for example, library

As shown in Table 6.6, despite the different sources identified, the majority of the students (*almost 60%*) believed that the support from friends and peers was the most readily available and more helpful in learning, as the findings in the subsequent sections show.

6.3.6 The influence of family, friends and significant others

As indicated in Table 6.6, the findings revealed that successful university academic life and learning could be influenced by the social environment such as one's family, friends and significant others. Regardless of their gender or academic departments, almost all of the interviewed students (*more than 60%*) believed that their family members, friends and peers constituted a crucial source of support for their effective learning, as illustrated below: -

'...the support I am getting is mainly from fellow students rather than from the lecturers. Sometimes my fellow students encourage me to keep on studying' S1, (*Engineering*)

'I gained information skills both by attending a computer literacy course and by asking friends and other people more competent than I am' S20, (*Accounting*)

'I get 100 % support from my family in terms of encouragement. Of course my mother did not reach this level of study. Even my father did not study to this level but they keep on encouraging me to work hard' S2, (*Sociology*)

'My sister studied similar subjects and has been constantly offering materials and encouraging support while I was at secondary school' S11, (*Engineering*)

The above findings suggest a number of insights showing the significance of the social environment on learning as students interacted with friends and colleagues. Almost all the participants acknowledged the centrality of friends in offering support in areas such as 'psycho-social support', 'encouragement', 'material support', and 'sharing learning through discussion and other collaborative learning methods'. With regard to support from family, however, even though students acknowledged the importance of family in supporting their learning, the majority of the participants felt that, unlike the support from friends, the family support was principally focused on material aspects and on encouragement. These findings show the importance of social support for

learning from different sources, and the importance of an informal learning environment in promoting lifelong learning. This theme is also emphasised in numerous studies (for example, Brennan *et al.*, 2010; Coffield, 2000a; Coombs & Ahmed, 1974; Foley, 1999).

6.3.7 Lecturers' contextual influence: 'exams will come from these handouts'

Based on the framework offered by Trigwell and Prosser (1993) and Boud and Falchikov (2006) indicating the importance of assessment in ensuring the high quality of students' learning, the study examined the assessment procedures employed by lecturers. Similar to the results reported earlier in this chapter, these findings suggested that the majority of the assessment procedures were emphasising the students' reproduction of what had been taught in the class rather than emphasising the students' development of 'learning-to-learn' skills, as illustrated in the lecturers' comments below: -

'...for the tests and assignments I stick to what I teach, Students may end up reading everywhere, but when it comes to the assessment, what we covered in the class is what I assess. So I tell them to cover what I taught in the class' L17, (*Science*).

'I also give students some hard copies of hand outs (like the one you see here). From my experience this is good for students to follow... Just tell them 'exams will come from these hand outs' L7, (*Engineering*)

'I want them to understand what I am teaching, because the value of teaching is whether they understand how they can apply it So I want them to understand' L13, (*Engineering*)

The lecturers' interview comments above suggest that what was being emphasised in the teaching and assessment procedures by the majority of the lecturers was primarily the students' ability to recall and reproduce what had been taught. Clearly the findings show that the majority of the lecturers were emphasising the use of a 'surface approach' to learning as opposed to a 'deep approach' or to developing 'self-regulated learning strategies'. The findings indicating the lack of emphasis on self-regulated learning were also similar to the findings from the quantitative study, noted in the previous chapter, in which the longitudinal results failed to indicate significant changes in students' 'deep

processing' strategies. Interviews with lecturers on grading students' assignments, for example, revealed that much of their attention while marking was on the mastery of course contents as opposed to encouraging the promotion of learning-to-learn skills. Some of the lecturer's comments are given below:-

'Marking is based on my lecture notes and on the marking scheme to see if students understood what I was teaching in class, but sometimes you need to be fair. You know in Sociology we are not static' L23, (*Sociology*)

'...sometimes even the nature of the exam questions we set aim at a very low level of reproduction of knowledge. For instance, just saying that a certain scholar has said so and so, but not saying how does this relates to Tanzania' L10, (*Sociology*)

Findings here suggest lecturers' focus on reproduction and mastery of course contents. Only a few of the lecturers appeared to aim beyond requiring students to reproduce and master course contents, as illustrated below: -

'I want my students to be able to question and go beyond what has been written. I have always been telling them that university education does not intend to give you solutions. I want you to go further' L15, (*Accounting*)

The findings in this segment suggest that a lot of the teaching and assessment procedures emphasise memorisation and mastery of course contents. Only a few of the lecturers seemed to teach and assess beyond such mastery of course contents. Similarly, much of their teaching practice seems to be based on an emphasis on the students' use of 'external regulation' skills.

6.3.8 Supportive versus less supportive lecturers' contextual influence: '*lecturers are here to fail us..!*'

Based on the assumptions in previous studies such as Vygotsky (1978, 1986), stressing the importance of students' interaction with lecturers and other mentors, the present study examined the nature and extent of lecturers' support for learning. The findings suggested that there were contrasting students' perceptions of the lecturers' role in terms of being supportive or less helpful. Participants, for example, identified less helpful academics with traits such as allotting insufficient time for attending students' learning problems and difficulties. The interview comments from student S19 (*Engineering*) and S18

(*Sociology*), for example, suggested that some students were pessimistic and even mistrusted lecturers' performance and availability for support: -

'...I think very few lecturers are ready to support. That is why lecturers at this university are here to fail us' S19, (*Engineering*)

'His office is very complicated. If you want to go to his office, first you have to face the secretary and ask for permission. I can't go even if I feel like I need support, when I think of these complications' S18, (*Accounting*)

'All teaching is done by part-timers; imagine that we have to cover three units in three weeks. This kind of teaching is very strange to me. We are getting a lot of things within a very short time. We are really packed. I don't see this as effective teaching' S12, (*Science*)

...Some lecturers will tell you - 'if there is anyone with any question, can they come to my office and ask it?' But this is very hard to do. When you are in your first-year, you have some kinds of worries because you are new to the environment. Even if I have a problem, I say to myself, If I forward this problem to the lecturer, he may annoy me by saying, 'Even this minor problem you are bringing to me?' The first time I went to the lecturer, due to confusion in one of the lectures, I was very scared because I knew that you have no right to see a Dr. How can I face him? S18, (*Accounting*)

As suggested in the above findings, it seems that the support offered for learning was unsatisfactory. One of the possible reasons for the lack of support was due to lecturer-student power-relationship and the status distance between students and lecturers. This could be evinced from the comments by student **S18**, whose attempts to approach lecturers for support seemed to be affected by the lecturer-student power-relationship (that is, 'a Doctor' versus a mere student). However, compared to students in consecutive years of studies, it seems the students' difficulties in approaching lecturers for support are more difficult during the first-year of studies. One of the possible reasons for this might be the fact that in the first-year of study students tend to be more nervous and uneasy, as revealed in the comments by **S18 (male, Accounting)** above. The other factors that might limit the supportive teaching and learning environment, as revealed in these findings, include factors such as lecturers' unwillingness to give support, a lack of commitment to support, physical environment barriers, and an inappropriate environment. The majority of the students felt that the

support offered by most lecturers was non-proactive, not readily available, not prompt, and in most cases not aimed at facilitating learning-to-learn skills.

As seen in the above findings, students perceived a range of factors that prevented their access to support for learning. The major limitations identified included factors such as poor post-lecture student support and an unsatisfactory lack of learning-to-learn skills support. Instead, much of the emphasis in support seems to be placed on the provision of course content and materials. The findings on the academics' focus on the provision of content were also consistent with findings by Trigwell and Prosser (1993) that classify lecturers into two major clusters, namely, those who aim at the transmission of information to the students, and others who teach on the basis of a student-focused approach. As revealed in these findings, however, the difficulties faced in implementing a learner-centred approach could also be associated with limitations such as the lack of professional development training, the class size, cultural factors, and insufficient instructional resources.

6.3.8.1 Lack of professional training: '*...not knowing what to prepare*'

The lack of initial teaching for professional training emerged from the findings to be one of the major barriers inhibiting the facilitation of lifelong learning. Two categories of lecturers, identified from the findings with regard to professional training, included: lecturers with an adequate professional background in teaching and others without professional teaching experience. The findings revealed that lecturers with prior professional training were relatively more confident in facilitating students' learning, as reported below: -

'Fortunately I am a teacher by profession. When I am teaching, I have something in mind I want to achieve. I want to promote skills in students' L25, (*Science*)

'I was lucky when I joined the University because I had a background in secondary school teaching. At least I had some exposure to teaching and learning methods' L19, (*Accounting*)

By contrast, the findings showed that other lecturers had only little or no prior professional training and background in teaching. The evidence from the interview comments suggests that lecturers without prior professional training

and skills in facilitating learning were themselves more limited in facilitating learning, as reported below: -

‘I gained experience merely by accompanying a senior professor. It was challenging. Sometimes you find yourself not knowing what to prepare. You sometimes write a lot of materials while the time given is very little, particularly when you are starting’ L14, (*Sociology*)

‘There was not any training other than my personal experience acquired through teaching at secondary school level and experience gained from my undergraduate degree’ L22, (*Science*)

As revealed in the findings above, there were contrasting lecturers’ perceptions concerning their professional competences and ability to assist students to learn. The variations in lecturers’ skills is also one of the themes in a study by Lindblom-Ylännea *et al.* (2006) and raises a broad question about the possibility of different student learning outcomes for students taught by academics with contrasting professional skills. Similarly, the importance of professional skills is also emphasised by Gibbs and Coffey (2004), who suggest that the provision of professional training at the beginning of lecturers’ career training can provide lecturers with an alternative culture counter-balancing any innate prejudices concerning the promotion of lifelong learning.

6.3.8.2 The effect of class size: ‘...a real challenge!’

The effect of big class sizes on the development of learning-to-learn skills emerged as another major obstruction hampering high-quality learning. The majority of the lecturers (*almost 53%*) reported that the big classes they had hindered the provision of a facilitative learning environment to the students and acted as a major factor negatively impacting on their teaching efforts, as reported below: -

‘Bigger classes are a real challenge! When you teach, it is like the rest of the students are not aware of what is going on. With more than 800 students, I normally restrict teaching to the use of the lecture method’ L16, (*Accounting*)

‘We have very large classes of students. We can’t even follow students’ individual learning activities’ L16, (*Accounting*)

‘...We have more than 700 students but the theatre can accommodate only 500. We have to split the class into two’ L18, (*Science*)

As seen in the above findings, class size had an effect on teaching and learning. The evidence from lecturer L16, (*Accounting*), who candidly confessed that she was compelled to use teacher-centred teaching approaches because of the big unmanageable class she had, demonstrates the challenges faced by lecturers when teaching. The findings with regard the effect of such big classes raise a broad question related to the challenges from an unsatisfactory physical learning environment on students’ development of lifelong learning skills, as explored later in this chapter.

6.3.8.3 Cultural contextual influence: ‘...the teacher knows everything’

The findings also suggested that there was an effect from cultural barriers on the students’ development of lifelong learning skills. Two levels of cultural influence, identified from the analysis of lecturers’ interviews, included: the individual and the institutional. In relation to individual cultural barriers, some lecturers believed that the students’ adoption of lifelong learning skills was primarily hindered by the students’ cultural backgrounds such as a poor secondary school education foundation, the lack of a culture of reading, and the lack of a culture of seeking information, as illustrated below: -

‘Most of our students are lacking a culture of reading. I think it is due to the poor foundation they had during primary and secondary education; there’s a lack of culture of reading; they don’t read books at all’ L16, (*Sociology*)

‘...we need to inculcate a culture of information- and knowledge-seeking in students. When they get here, it is difficult. Something should be done before a student steps foot in the University’ L26, (*Accounting*)

‘...the culture of cutting and pasting is prevalent, even among lecturers, and that is why, even among ourselves, people are not concerned about that’ L11, (*Sociology*)

By contrast, institutional-related cultural barriers were also reported by other lecturers, as follows:-

'I grew up knowing that a University is mainly about lecturing. You impart knowledge and explain, and even writing on the board should be very little and your role is not to give details' L9, (*Sociology*)

'At primary and secondary school students are not free to interact with their teachers. So, when they come here, they already have this habit of fearing to talk publically to a lecturer. Talking to a lecturer appears to them as a crime' L25, (*Science*)

The findings here show the effect of culture on students' development of lifelong learning skills. At an institutional level, the sources of cultural barriers include factors emerging from the schools attended, the university traditions, and the family. Similarly, at a personal level, the cultural barriers include factors such as the personal attitudes and the lack of skills. The findings related to the effect of culture might possibly explain why the quantitative results showed a small-effect size on the construction of 'deep' and 'self-regulation' strategies.

6.3.8.4 Unsatisfactory teaching & learning infrastructure: '*...the library itself is messy*'... '*we really suffer!*'

Finally, as noted earlier in this chapter, the findings indicated that the lecturers were also affected by the acute scarcity of teaching resources and infrastructure, this being seen as one of the major deterrents to facilitating the students' development of lifelong learning skills. As cited by lecturers, the problem faced includes: insufficient resources, a lack of the internet, and poor infrastructure. The lecturers' interview comments below signify the general dissatisfaction with the teaching and learning infrastructure: -

'...the biggest challenge is the insufficient resources. We don't have many resources. We don't have adequate access to internet, even among ourselves; we suffer a lot!' L18, (*Accounting*)

'I think the University is still far in terms of the required resources. It is lagging behind in terms of everything. If you talk about the text-books, there are very few relevant books and journals. Some of them are as old as 1964' L4, (*Engineering*)

'There are no books in the library and even the books available are very old. So it is very unwise to refer students to such old materials' L7, (*Engineering*)

'This library was built to accommodate only 500 students at once. Right now we have about 15,000 students and the library is still the same' (Lib 1)

The library itself is messy. Most of the books are extremely old. No effort is made to improve the library, no efforts to pay for electronic materials...I placed my order for a journal article at the beginning of the semester, and I could not get it until the end of the semester. L10, (*Sociology*)

As the interview comments above suggest, there were severe effects from an inadequate infrastructure on learning, as acknowledged by lecturers and administrative staff such as (*Lib 1*) who seem to lament about the inadequate access to materials and learning resources. Consistent with observations in previous studies by Galabawa (1991) and Teffara and Altbach (2004), a clear picture, emerging from the findings, shows the magnitude of this problem of inadequate resources and a dilapidated teaching & learning infrastructure in Tanzanian higher education institutions (see also Chapter 4).

6.4 Chapter summary

In this chapter, the contextual variables (for example, academic departments, lecturers and peers), and personal variables (for example, age, gender and personal agency) were examined to establish their influence on LLL skills development. In relation to 'personal agency', consistent with studies by Chen (2006) and Zimmerman and Cleary (2006), a significant positive correlation was found among different constructs that are supportive to lifelong learning. However, these constructs were negatively correlated with learning orientations unsupportive to lifelong learning such as 'ambivalence' and 'lack of regulation'. A possible interpretation for these results includes the fact that students with reproductive skills such as 'ambivalence' were less likely to adopt lifelong learning such as 'self-regulation' or 'information skills' and vice-versa.

With regard to age and gender, even though some variations in age and gender were found, the effect size of these differences seemed to be relatively low (see *Appendices 'D' & 'E'*). Interestingly, however, some of the gender difference results obtained were in accordance with previous studies such as Minnaert (1999) and Chachage (2001). As for 'regulation processing', the results in the present study showed that the females had statistically significant higher scores

on 'external regulation' strategy than males did. By contrast, male students had significant higher scores on 'evaluating information' than females did. The results, however, indicated that the effects of age and gender variations on learning were diminishing over time, suggesting that over time age and gender variations were becoming less important predictors of LLL skills.

Concerning the effect of academic disciplines on learning, the results indicated that there was a statistically significant difference in 'deep processing' and 'concrete processing' sub-scales, but not on the 'stepwise processing' sub-scale. Whereas only Science students scored the highest on the 'deep processing' sub-scale, students from Sociology both scored the highest of all students on the 'concrete processing' strategies. Meanwhile, Engineering had the highest scores of all on 'vocation-directed' learning orientation. The likely interpretation for engineering students' higher scores on 'vocation-directed' learning might be due to the emphasis placed on the professional and job market and on employment for engineering students, unlike in other academic disciplines. No multi-variate effect of academic discipline contexts was found with regard to 'regulation strategies'. The lack of differences was interpreted as a probability that students across academic disciplines were using comparable regulation strategies. The qualitative findings, however, revealed that there was a dominance of 'external regulation' learning strategies across the four academic disciplines, suggesting an emphasis on rote learning. In relation to the learning orientations, there were statistically significant differences for 'certificate-directed' learning orientation, in which Science students had the highest scores of all, implying that they have higher motivation for passing exams and acquiring credit points and degrees than students from other academic disciplines.

The results with regard to the effect of academic disciplines on information skills were non-significant. The qualitative findings, however, suggested that the influence from lecturers and friends on students' development of information skills was more important than the effect of academic disciplines. Academic disciplinary variations were also noted in 'entrepreneurial skills', in which students from Accounting seemed to be more inclined to be involved with self-employment activities than others. On the other hand, students from Sociology appeared to be more motivated to engage in social entrepreneurial activities out

of altruistic motives as opposed to from a desire for personal gains. Finally, the findings indicated that there was an influence from contextual variables such as the social environment, the university lecturers and the assessment procedures for learning. The data suggested that the factors that could hamper the development of high-quality learning included: the lecturers' unwillingness to support learning, the lack of professional training as well as unsatisfactory teaching and a poor learning infrastructure.

In conclusion, the findings in this chapter have revealed that LLL can be influenced by a combination of extensive personal and contextual factors. Despite the disciplinary differences and contextual influences, the results obtained indicated a relatively small effect size, although some effect of the disciplinary contextual differences could clearly be detected. Some of the major personal and contextual influences on lifelong learning that were observed included: the university lecturers, the teaching approaches and the assessment procedures. It might therefore be argued that the effect of contextual factors such as academic disciplines, lectures and assessment procedures might result in differing learning outcomes.

Chapter 7

Discussion

7 Introduction

This chapter discusses and interprets the major findings of the study with the overall aim of addressing the key research questions. The discussion in this chapter is organised into three major sections. In the first section, the findings in relation to the extent to which Tanzanian education policies influence lifelong learning and higher education are discussed. Next, the findings related to stability and variations in ‘processing strategies’, ‘regulation strategies’, ‘information skills’ and ‘entrepreneurial skills’ are examined. The final segment of this chapter discusses the findings in relation to the influence of personal and contextual variables on the above mentioned LLL attributes. Prior to the discussion of the major findings, however, a brief synopsis of the purpose of the study and the research questions addressed in the study is given.

7.1 An overview of the study, purpose of the study, design and research questions

The study investigated the extent to which individual and institutional processes influence undergraduate students’ capacity to develop and persist as lifelong learners in Tanzania. In particular, the study examined the contribution of university undergraduate students’ learning experiences to the development of lifelong learning attributes so as to understand whether or not these were important in helping students to become lifelong learners.

The theoretical assumptions underpinning this study were that students might increasingly manifest sophisticated levels of lifelong learning attributes, as they proceeded through higher education, as suggested in the literature (for example, Brennan *et al.*, 2010; Candy *et al.*, 1994; Instance *et al.*, 2002; Knapper & Cropley, 2000; McCune, 2000; Morgan-Klein & Osborne, 2007). Findings in these studies suggested that students might develop a repertoire of lifelong learning attributes as a result of planned and fortuitous undergraduate learning experiences. The majority of these studies, however, were conducted

in the context of western countries. The present study set out to contribute to the debate by applying the LLL constructs in an African context, namely, Tanzania.

The present study addressed the following research questions: -

1. How and to what extent does the national and institutional policy context in Tanzania shape and influence the students' development of LLL skills in higher education institutions?
2. Is there a relationship between students' progression in higher education and the increase, decrease or stability in students' mean scores in lifelong learning attributes as manifested in 'processing strategies', 'regulation strategies', 'personal agency', 'information skills' and 'entrepreneurial skills'?
3. Are there any significant differences in the development of lifelong learning capacities among undergraduate students in Tanzania in terms of contextual or personal variables such as socio-economic status, age, academic discipline, socio-economic background, or other related predictors?

7.1.1 Research Design

As noted earlier in Chapter 3, the study adopted a longitudinal mixed methods research design in which a researcher collects data at more than one instance and integrates both qualitative and quantitative approaches in a single study for the purpose of obtaining a full picture and a fuller and deeper understanding of the phenomenon under study (Chen, 2006). In relation to the quantitative study, data were collected in two phases using the Information Skills Survey (ISS) (Catts, 2005) and selected scales from the Inventory of Learning Styles (ILS) (Vermunt, 1994). The surveys for the first phase were administered to first-year students ($n=839$) between December 2010 and January 2011. The second phase of data collection was conducted in March 2012, ($n=900$). The number of combined identical surveys from the two administered surveys, however, was relatively small [(that is, $n=421$), that is, an attrition rate of 49%]. In terms of

individual academic disciplines, the attrition rates were as follows: 37% for Accounting, 44% for Engineering, 72% for Science, and 37% for Sociology (Table 5.1).

The possible causes for these high attrition rates between the two phases were mainly from unusable completed questionnaires and simply that some subjects did not turned up for the second survey. As reported earlier in Chapter 3, however, the problem of high attrition rates seems to be one of the common phenomena in many studies conducted using a panel research design (Busato *et al.*, 1998; De Vaus, 2001; Hakim, 2000; Pallant, 2007). In the present study, the high attrition rates caused by unusable completed surveys might be explained by factors such as the unfamiliarity of Tanzanian students with completing long questionnaires as well as linguistic and cultural barriers, also reported in previous studies such as Ryan and Game (1991). Likewise, the high attrition rates caused by subjects who might have not turned up for one of surveys might be explained by the procedures used in recruiting research participants during data collection; this entailed the researcher going into classes where students were taking elective modules or options. Some of the students taking the first-year options might not have taken the second-year options and vice-versa. This might be especially true for science students for whom the attrition rate of 72% appears to be relatively higher. Despite the relatively high attrition rates between the two surveys, however, the final sample was still considered to be reasonable and adequate for making a meaningful analysis [that is, ($n=421$)]. With regard to analysis, as reported in Chapter 3, the quantitative analysis of data involved the use of uni-variate and multi-variate tests statistics such as *t-test* (both paired samples and independent samples) and correlations, and MANOVA and ANOVA respectively.

In relation to the qualitative element of the study, data were largely collected using semi-structured interview schedules with students ($n=23$), lecturers ($n=26$), librarians ($n=4$), University officials ($n=7$), and a Ministry official ($n=1$). Additional data were collected through document review and students' diary-keeping ($n=23$). However, as reported earlier, even though the diary-keeping seemed to be a useful way of collecting detailed and intimate data which otherwise might have been denied (Bryman, 2008), its use in the present study

yielded little with a high attrition rate of approximately 90%. Despite efforts by the researcher to send frequent reminders to diarists, the response rate still remained low. The likely reason for this high attrition rate might be due to students' lack of commitment and interest, as well as to the cultural and linguistic barriers stated above. Consequently, the data from the diaries were not included in the analysis in the present study. The analysis of qualitative data involved reading and coding the transcriptions using NVIVO Version 9, based on deductive and inductive thematic analysis looking for differences, similarities and patterns on different themes.

7.1.2 Internal consistency of the scales

The internal consistency of the ILS and ISS scales was assessed using Cronbach (1951) alpha values calculated for scales at each of the two phases of data collection. With the exception of the 'personally interested' sub-scale whose reliability value was .18, the Cronbach's alpha values for most of the ILS scales ranged from .45 ('vocation-directed'), to .82 ('deep processing'). In comparison with previous studies such as those of Busato *et al.* (1998) and Vermetten *et al.* (1999), the reliability values for some of the ILS scales in the present study were relatively low. The lower internal consistency alpha values obtained in the present study, however, are comparable to internal consistency results obtained in previous studies conducted in a non-western context such as those carried out by Ajisuksmo and Vermunt (1999), particularly for alpha values on the 'personally interested' and 'vocation-directed' sub-scales.

One possible interpretation for the lower reliability for sub-scales such as 'personally interested' and 'vocation-directed', according to Ajisuksmo and Vermunt (1999), might be due to the fact that these two sub-scales are among the most vague or ambiguous components of the measures in the ILS scale. As the authors suggest, the meanings implied in those constructs may be hard for students to understand when translated into another language. It is therefore possible that the lower reliability results in the present study suggest the influence of the Tanzanian pedagogical and educational cultural context (Vermunt & Vermetten, 2004, p. 369). Considering the observed influence of cultural and contextual factors and despite discrepancies in Cronbach's alpha

values between the current and the previous studies, the sub-scales with lower values were still included in the analyses.

With regard to the Information Skills Survey (ISS), the internal consistency reliability results indicated that the Cronbach's alpha coefficient values ranged from .46 on the 'accessing information' sub-scale to .67 on the 'managing information' sub-scale. Comparing these results with reliability results reported in previous results such as Catts (2005), Catts (2007) and Clark and Catts (2007), the alpha values reported in the present study were relatively low for some of the sub-scales. However, since the ILS and the ISS instruments were both validated in the context of Western countries, the relatively low ISS reliability coefficient values may be explained by the effect of Tanzanian cultural and educational contexts.

7.2 Discussion of the main findings

As reported earlier, the discussion of the major findings in this chapter is organised on the basis of three major segments reflecting the research questions addressed in the study, namely, (1) the higher education and LLL context and policy influences (2) the stability of and variations in students' LLL attributes over time, and (3) the contextual and personal variables influencing students' development of LLL attributes.

7.2.1 The higher education and lifelong learning policy context and influence

The initial research question concerned exploring the extent to which the national and institutional policies influence the students' development of lifelong learning attributes in Tanzania. The lack of comprehensive lifelong learning policies for the majority of developing countries including Tanzania was discussed earlier in Chapter 2. The empirical findings from the analysis of interview schedules and the content analysis of policy documents performed in the present study supported the theoretical supposition made earlier with regard to the paucity of LLL policies. The findings suggested that even though Tanzania had formulated and enacted a number of educational policies and statutes such as the Tanzania Educational and Training Policy (URT, 1995), the Tanzania 2025

Development Vision (URT, 1998), and the Higher Education Policy (URT, 1999), the country was still lacking a policy document that exclusively focused on lifelong learning.

Many of the existing policies analysed did not seem to put much emphasis on the promotion of students' LLL attributes. For example, despite the enactment of legislation to regulate the provision of education in 1962, until recently, a number of issues remained unresolved with regard to ensuring adequate access to learning and quality education for every citizen (see Cooksey, 1986; Mosha, 2006). Until recently, there had been slow progress in the growth of access to education, particularly for higher education where there had been little measurable improvement (Cooksey *et al.*, 2003; Lewin, 2009). A study by Galabawa (1991) noted that, until 1990, the University education largely remained a place for a select few since less than 4% of primary school graduates could eventually reach University level schooling. Another study by Teffara and Altbach (2004) based on Cooksey *et al.* (2003) also estimated that with a population of 32 million people in the year 2000, the enrolment in higher education was still under 21,000 students. Even though recent statistics by TCU (2013) suggest an increase in the student enrolment rates of up to 39,218 students in the year 2007, that achievement still remains low when compared to higher education social demand in a country that has an approximate population of 45 million people (2012, est.), (URT, 2012). Additionally, despite the government's acknowledgement of its legal responsibility to provide access to education for its citizens and to ensure every citizen has a right to education, the implementation of educational policies has been largely curtailed by constraints such as the lack of resources and the inadequate infrastructure, as indicated in previous studies (Mosha, 2006; Samoff, 1987; Sumra & Rajani, undated).

Consistent with observations in previous studies (for example, Cummings, 2008), the findings in the present study suggest that existing policy frameworks were inadequate for creating sufficient LLL environments to help students excel in different constructs related to LLL such as 'learning-to-learn', 'information skills' and 'entrepreneurial skills'. The findings, for example, suggested the absence of adequate flexible structures within government ministries, voluntary

agencies and private organisations that could enable them mutually to work together to promote lifelong learning. Even though the government enacted the 'Education for Self-Reliance' (ESR) policy in 1967 as a new measure aimed at integrating schools with communities and making students more self-responsible (Cooksey, 1986; Kassam, 1983), the analysis indicated that there had been little policy emphasis on the integration of lifelong learning with higher education. The major priority in the ESR policy document had been mainly on primary education and adult education (Lassibille *et al.*, 2000). Despite the introduction of another educational policy in 1995 [that is, Education and Training Policy (ETP, 1995)], which is the prevailing education policy claiming to address the emerging 21st century challenges, the document still seems not to give due emphasis to lifelong learning. Only scant disjointed references made to terms such as 'lifelong learning' and 'learning society' were to be found in this document. No further systematic translation of these terms into implementation seems to have been made.

With respect to educational structure, similar to the observations in previous studies such as Malcolm *et al.* (2003) and Torres (2009), the Tanzanian educational structure seems to be too rigid for it to comprehensively accommodate diverse LLL needs. Analysis suggested that the inflexibility in the Tanzanian educational system was largely due to government tendencies to consider formal education and other forms of learning as two opposing extremes existing within two different educational paradigms. Consequently, the way education is organised, financed and provided in the country tends to reflect the polarisation between formal education and non-formal education. As a result formal education is considered to be superior to other forms such as informal and non-formal education. An additional limitation which might explain the lack of commitment to lifelong learning is the confusion which seems to exist in the way different concepts relating to lifelong learning such as 'adult education', 'continuing education' and 'lifelong education' are perceived. The use of these terms by the majority of policy makers as well as by the general public seems to be based on a narrow conception of viewing lifelong learning in the context of adult and literacy education, without seeing the connection between lifelong learning and higher education.

With regard to institutional policies and contexts, the content analysis of policy documents showed that, even though terms such as ‘lifelong learning’, ‘learner-centred’ and ‘entrepreneurial skills development’ were commonly stated in the university vision and mission statements and in other official documents, no further implementation strategies seemed to exist. Findings suggested, for example, that there were no concrete policies related to development of the constructs stated in the policy documents. The absence of a lifelong learning policy at the institutional level, however, could also be explained by the lack of a comprehensive macro-policy and of structures to promote lifelong learning, as discussed earlier in Chapter 4. The additional problem at an institutional level was the lack of shared understanding of the institutional values, vision and concepts related to lifelong learning such as ‘graduate attributes’, ‘lifelong learning’ and ‘self-direction in learning’ and about what such concepts might imply in the teaching and learning situation. As reflected in these findings, the absence of elaborate structures designed to promote lifelong learning and the lack of clear communication of university visions seemed to be one of the reasons contributing to the difficulties experienced by lecturers trying to realise intentions related to lifelong learning.

With respect to course content, the findings did not confirm the propositions of previous studies by Candy *et al.* (1994), which proposed the need to embed specific features in university courses so that they can promote LLL. The features proposed in that study, but which could not be observed in the examined university courses, included: self-directedness in learning, real world learning and experiential learning, and resource-based and problem-based teaching. Other features that seemed to be absent included: mechanisms for open learning and alternative delivery, and the use of methods that might encourage reflective and critical self-awareness practices. Similarly, weaknesses with regard to the assessment procedures adopted included the absence of mechanisms for the use of self-assessment and peer assessment techniques (Candy *et al.*, 1994). The majority of the institutional assessment policies and procedures instead seemed to focus more on the assessment of ‘how much had been taught’ as opposed to ‘what students have learnt’ (Boud & Falchikov, 2006, p. 402).

One of the possible reasons for the slow implementation of LLL policies at the micro-level could also be explained by the qualitative findings, which suggested the presence of limitations such as a lack of instructional resources, and unsatisfactory teaching and learning infrastructure. The effect of inadequate resources also seemed to lead to an additional problem faced by lecturers in managing large classes, which emerged due to the high social demand for access to higher education. Consequently, there has been a huge impact from increases in student enrolment on the quality of teaching and learning, which in turn has led to difficulties in implementing a lifelong learning agenda in higher education institutions (Moshia, 2006). The implementation of student expansion policies since the 1990's without a complementary expansion of teaching and learning infrastructure seems to have complicated even further the effective implementation of the concepts aspired to by the university such as 'learner-centred learning'. The implementation of an expansion of student enrolment policy in Tanzania suggests that it is unlikely that the students' engagement with high quality learning will be effectively facilitated.

As suggested in the findings, the other possible reason for the lack of a comprehensive lifelong learning policy at the macro-level might also be associated with the country's historical realities. Given the poor educational structure inherited from earlier eras, the majority of Tanzanians have had until recently comparatively limited access to education and learning opportunities. In the government's efforts to redress the aftermath of the colonial administrative policies, the majority of educational policies adopted during the early years of independence (1961-1980's) were bound to focus on giving adults a second chance through the provision of basic education, adult education and literacy programmes rather than offering higher education and LLL pathways (Galabawa, 1990). The lifelong learning model implemented in Tanzania, therefore, appears to match the '*minimalist*' perspective to lifelong learning, noted earlier in Chapter 2 (Wain, 1985, 1987); the implemented policies tend to exclusively focus on adult and continuing education as opposed to keeping a '*maximalist*' perspective, which tends to focus on fostering a learning society. The emphasis on 'adult education' rather than on the 'learning society' is clearly manifest in the most recent educational policy, namely, Tanzania Education and Training Policy (ETP) (URT, 1995, p. 85), which views adult education within a

limited perspective of the 3Rs (that is, reading, writing and arithmetic). The policy emphasis on giving adults a second chance might also be considered using the framework offered by Aspin *et al.* (2001), in which many of the LLL policies are based on compensating and giving a second chance for those who lacked access. Possible reasons for the non-existence of a comprehensive LLL policy might also be found from the perspectives of scholars such as Eele *et al.* (2000) and Wedgwood (2007), who link the ineffective formulation and implementation of higher education and lifelong learning policies with the scarcity of resources in the country. Previous studies by Galabawa (1991) and Teffara and Altbach (2004) maintain that the quality of higher education in Tanzania seems to have been suffering from the severe socio-economic hardships that the country had been experiencing during the recession in the 1980's, which had a long-term effect and further complicated the quality of most of the social services, including education.

7.2.2 The stability of and variation in students' development of lifelong learning attributes over time

The exploration of the stability of and variation in students' development of lifelong learning skills between Year 1 and Year 2 of their studies was based on theoretical assumptions by scholars such as Busato *et al.* (1998), Candy *et al.* (1994) and Pascarella and Terenzini (2005), who suggest that higher education can positively impact on students' development of LLL skills. In particular, it was hypothesised that a systematic increase might be observed in students' mean scores on different dependent variables theoretically related to LLL (that is, students' use of 'deep learning' strategies, 'self-regulation' learning strategies, 'information skills' and 'entrepreneurial skills'). Conversely, reductions were expected on mean scores of the latent variables unrelated to LLL such as 'lack of regulation' strategies, 'external regulation', 'ambivalence' and 'certificate-directed' learning orientation as students progressed towards Year 2 of their studies.

The longitudinal *t-test (paired)* results partly confirmed and partly rejected these initial expectations. With regard to the ILS sub-scales, as expected, there was a reduction in the scores on some of the reproduction constructs unrelated to lifelong learning, namely, 'stepwise processing', 'external regulation', and

'certificate-directed' learning orientation. The decrease in 'stepwise processing' was in accordance with a previous study by Severiens *et al.* (2001) suggesting that students use fewer 'stepwise processing' strategies in the later years of higher education rather than when they start. The reduction in 'external regulation' was similarly also in accordance with earlier expectations. Likewise, the decrease in a 'certificate' or 'test-directed' orientation was interpreted as being probably due to diminishing students' determination for studying for the sake of passing examinations in later years compared to when they started. Surprisingly, however, the results did not confirm the premise that there might be an increase in students' mean scores of constructs supportive of LLL such as 'deep processing' and 'concrete processing', as initially hypothesised. The results instead showed that the students' scores on the deep learning approach remained stable after Year 1 of higher education. The results on the stability of 'deep learning' approaches, however, were in accordance with those of Busato *et al.* (1998) and Donche *et al.* (2010), suggesting that constructs such as 'deep learning' may take longer to evolve than other constructs. The results, in addition, were in accordance with a study by Vermunt and Vermetten (2004) indicating that the factor structure underlying some of the ILS constructs becomes clearer and can be interpreted better when students have progressed further in their studies.

The absence of change in the constructs of 'deep processing', 'concrete processing', and 'self-regulation' strategies in the present study was also in accordance with findings in a previous study by Vermunt and Vermetten (2004, p. 376) that found 'the usual exams in the first years of higher education hardly capitalise on students' use of skills such as critical, analytical and concrete processing' strategies (see also, Vermunt, 2005). If this interpretation is correct, the results may suggest that students are in a transitional phase of their study practices, or that academics have not been focusing on helping students to develop 'deep processing strategies' during the early years of higher education. Comparable findings were also obtained in a study by Donche *et al.* (2010) who found that only a little change occurred in the ILS scale mean scores between the first and second-year of studies. The findings instead showed that the most significant changes occurred after two years of university study.

With respect to 'information skills', the hypotheses made were based on Catts and Lau's (2008, p. 16) information skills model, suggesting the possible development of information skills as students progressed from the earliest stages of higher education. On the basis of this model it was hypothesised that there might be an increase in mean scores on constructs related to information skills such as 'accessing information' skills as students progressed from Year 1 to Year 2 of their studies. The quantitative results obtained partly confirmed the study's initial assumptions since there were improvements on three information skills sub-scales, namely, 'ethical use of information', 'accessing information' and 'evaluating information'. The effect size of the changes observed, however, was relatively small. On the other hand, the quantitative results rejected the earlier theoretical assumptions regarding likely improvements over time on the sub-scales of 'managing information' and 'applying information'. The improvements in students' information skills, however, could also be explained by the qualitative findings, which indicated that the majority of the students reported overall improvements in their information skills and believed that there were increased incidences of information use after Year 1 of their studies.

Perhaps the absence of improvements on the sub-scales of 'managing information' and 'applying information' suggests the degree of complexity of development that these constructs represent. It is possible therefore that further changes in information skills might be manifested in the later years of higher education. The relative lack of progress in students' information skills might also be explained by their lack of previous experience and exposure to technology at school and at home (Chachage, 2001; Comings, 1995; Lwehabura & Stilwell, 2008). The other possible interpretation for the absence of change and the small effect sizes reported on the ISS sub-scales might also reflect the fact that the limited period in which the present study was carried out (one year between surveys) was too short for significant changes to occur. On the other hand, with regard to the increase in scores for the sub-scales of 'ethical use of information' and 'accessing information', even though the effect sizes were relatively small, this increase might be due to the impact of university instruction including modules delivered to first-year students on writing and communication skills.

The small effect sizes yielded on the three information skills sub-scales might also be the consequence of the lack of university-wide information policies, as noted earlier in Chapter 4. Additionally, it is also possible that the relatively small improvement in some of information skills constructs might also be explained by the overall scarcity of information resources in higher education and by limitations such as the restricted access to technology and the poor connectivity common to most of the low-income countries such as Tanzania, documented also in previous studies such as Comings (1995) and Lwehabura and Stilwell (2008). Comparing these findings with previous studies (for example, Catts, 2007; Chachage, 2001; Lwehabura & Stilwell, 2008), the majority of those studies did not include a longitudinal design dimension, thus making it harder to compare.

Finally, with regard to 'entrepreneurial skills', the study was conducted on the basis of observations in previous studies (for example, Gibb, 1987; Rae, 1999, 2000) suggesting a likely increase in students entrepreneurial skills as a result of tertiary education experiences. The entrepreneurial skills components from which improvements were expected included 'innovation skills', 'willingness to engage in voluntary activities' as well as engagement in 'part-time and self-employment' activities. The analysis of the qualitative findings on students' entrepreneurial skills development, however, revealed that there were no improvements in students' entrepreneurial skills after Year 1 of their studies. The findings therefore failed to confirm the earlier predictions that higher education would be a positive predictor of students' improvement in their 'entrepreneurial skills'.

One of the possible explanations of the absence of improvements in students' 'entrepreneurial skills' includes the lack of a supportive institutional policy environment, and the fact that most policies related to the promotion of LLL were at best only at a rhetorical level, as noted in Chapter 4. The lack of improvement in students' entrepreneurial skills after Year 1 of their studies might also be explained by the fact that the University's promotion of 'entrepreneurial skills' is quite a new phenomenon in Tanzania. As indicated earlier in Chapter 4, since 1967 the Tanzanian national development goals and policy objectives have been based on the implementation of the Socialism and

Self-Reliance policy, which largely insists on the provision of equal opportunities and the need to reduce social inequalities in society. Consequently, for many years the focus of higher education in Tanzania has been on the inculcation amongst university graduates of an ideological sense of fairly equitable distribution of wealth and the absence of exploitation, where all members share resources fairly (Kassam, 1983; Mwasalwiba *et al.*, 2012). It might therefore not be surprising that there were no changes in the ‘entrepreneurial skills’ construct. The absence of change in students’ entrepreneurial skills might also be the result of structural and organisational factors within and outside the university. Students, for instance, reported inhibiting structural factors such as ‘the lack of organisations that offer opportunities for ‘entrepreneurial skills’ development opportunities’, ‘the university’s tight academic schedule’, and ‘irrelevant university courses on offer’. The findings indicating the lack of organisational support did not correspond with the framework offered by scholars such as Chapman and Aspin (1997), Frank (2005) and Longworth and Davies (1996) that stress the importance of developing LLL skills in conjunction with other partners in society, including professional organisations and interest groups (see also Mwaikokesya, 2012).

Finally, the absence of improvements in ‘entrepreneurial skills’ might also be explained by the personal barriers and factors in students such as the lack of interest in such activities, the absence of rewards and incentives, a negative attitude towards volunteering and related activities, the lack of financial capital, and the lack of time. Comparing these findings with previous studies conducted in Tanzania in relation to the development of ‘entrepreneurial skills’ such as those of Matambalya and Assad (2002) and Olomi (2001), it is relatively difficult to make meaningful comparisons because the majority of these studies neither considered the development of entrepreneurial skills in the context of higher education nor included a longitudinal design dimension. However, a recent study by Mwasalwiba *et al.* (2012, p. 186) suggests that some of the possible factors impeding graduate entrepreneurial intentions in Tanzania include: the lack of start-up capital, an inhibitive banking and taxation system, poor technology, corruption, and cheap imports from countries such as China, all of which prevent innovative ideas.

7.2.2.1 The effects of age and gender over time

With regard to the influence of age and gender on lifelong learning attributes over time, the results with respect to the ILS scale indicated that there was significant change on the 'stepwise processing' sub-scale for males but not for females, suggesting that male students were less likely to use a surface approach to learning. Again males scored higher than females over time in all of the three dependent variables of 'regulation strategies', namely, 'self-regulation, external regulation' and 'lack of regulation'. The only change over time for female students in relation to regulation strategies was a reduction in 'external regulation' learning strategies. The results did not support previous findings by Minnaert (1999) indicating that the fear for failure plays a more inhibitory, detrimental role for effective self-regulation for females in comparison to male students. One possible interpretation for a significant decrease in 'external regulation' for females might be the impact of the university education they have received. In relation to learning orientations, there was a significant decrease in 'self-test' orientation and an increase in 'self-directed' orientation for both male and female students. However, for males there was also an increase over time in relation to 'vocation-directed' orientation. A possible interpretation with regard to males' increase in 'vocation-directed' orientation as compared to females is that it might be due to the traditional dominance of males in the Tanzanian labour market. Traditionally females in Tanzania mainly engage in subsistence farming and domestic chores (Masanja, 2004; Meena, 1996; Mlama, 2005).

On the other hand, in relation to the ISS scale, there was a statistical significant increase over time for both males and females for three constructs, namely, 'accessing information', 'ethical use of information' and 'applying information'. However, only for females was there also a significant increase in other constructs, namely, 'evaluating information' and 'managing information'. One of the possible explanations for the higher scores of females might be Tanzanian cultural reasons. This is because compared to males, females traditionally tend not to go to school and, even if they go, their overall engagement and attainment level in school is relatively lower (Meena, 1996). One would expect to see more changes among female students because they are starting from a

lower level of engagement and attainment whereas males are more likely to be engaged in schooling.

Regarding the effect of age differences over time, there was a significant increase in the 'personally interested' sub-scale for older students in comparison to younger ones. The findings were in accordance with those of Vermunt (2005) indicating that older students in comparison to younger students more often consult other sources than the prescribed syllabus and associate learning with constructing their own knowledge and insights. The results, however, did not confirm his findings which indicated that older students were more likely to use both 'deep processing' strategies and 'self-regulation' strategies than younger students. The inconsistent results might be due to the effect of cultural context, as discussed earlier. With respect to information skills, there was an increase over time for both younger and older students on 'ethical information' use and on 'accessing information' skills. However, only for younger students was there a significant increase on 'applying information'. The results indicating a significant increase in 'applying information' for younger students were in accordance with findings in a study by Chachage (2001), who reported that engagement with information tends to be higher for younger populations than older ones, and for males in comparison to females.

7.2.3 The contextual and personal factors influencing students' development of 'processing and regulation' strategies, 'personal agency', 'information skills' and 'entrepreneurial skills'

As reported earlier, the exploration of the influence of personal and contextual factors on students' LLL skills was based on assumptions in previous studies (for example, Entwistle & Ramsden, 1981, 1983; Gow & Kember, 1993), stressing the importance of contextual variables as well as students' perceptions of the influence of learning environments. The study, in addition, was based on ideas from studies such as Busato *et al.* (1998) and Richardson (1993), suggesting that there was a likely influence from personal variables such as gender, age and 'personal agency' on learning. The results obtained in the present study are discussed below: -

7.2.3.1 The association between 'personal agency' and 'processing strategies' and 'regulation strategies'

The correlation analyses confirmed the initial hypothesis with regard to the association between learning orientations (that is, personal agency) and students' choice of strategies and approaches to learning, especially for the construct of 'ambivalence' orientation. In line with previous studies such as Phan (2008) and Zimmerman and Cleary (2006), for the major variables related to lifelong learning ('deep processing', 'information skills', 'self-regulation', 'concrete processing'), a consistent moderate negative association was found with the learning orientations unsupportive to lifelong learning, namely, 'ambivalent orientation'. On the other hand, consistent with the empirical findings by Busato *et al.* (1998), consistent positive correlation results were found between the reproduction constructs unrelated to LLL, namely, 'lack of regulation' and 'ambivalence'.

As these results suggest, students with an 'ambivalent' learning orientation appeared to be more unlikely to adopt LLL skills such as 'self-regulation' or 'deep learning' strategies. Consistent with previous studies by Donche *et al.* (2010) and Zimmerman and Cleary (2006), the 'ambivalence' learning orientation was found to be a negative predictor of students' adoption of LLL attributes. Even though the correlation coefficients of the associations were relatively small, these results might suggest that the students' personal beliefs about learning were predictors of their LLL attributes such as 'information skills' and 'deep processing' strategies. It seems from these results also that only certain types of motivation might promote students' LLL skills. The results further suggest the importance of supporting students to manage their levels of motivation in order to develop LLL attributes.

7.2.3.2 Age and gender influence on lifelong learning

The *t-test* results on the influence of gender showed that the scores on three sub-scales of the ILS 'processing strategies' ('deep processing', 'stepwise processing', and 'concrete processing') were higher for male students than for female students in the first phase but not in the second. Male students also scored significantly higher than females on the ISS sub-scale of 'evaluating information' skills during the first phase. Females on the other hand scored

higher on 'external regulation' during the first phase and also scored higher than males on 'certificate-directed' orientation during the second phase. In comparing these results with previous studies (for example, Richardson, 1993, 2000; Zeegers, 2001), although the findings did not confirm the absence of differences between the sexes on students' learning approaches, the magnitude of the effect size obtained in the present study was relatively small suggesting the minor practical importance of the differences observed.

Additionally, the findings from the interviews on the effect of gender differences supported those from previous studies by Severiens *et al.* (1998), indicating that the effect of gender differences could mainly be the result of factors unrelated to learning and instruction. It seems from these findings, therefore, that the gender differences observed in the present study may be due to stereotyped perceptions of the roles of students as males and females from groups such as family members, friends and peers, and has little impact on learning differences. The gender differences observed might also be explained by the Tanzanian historical and cultural reasons indicating that males have more exposure to information sources than females and that the females are more affected by traditional unbalanced domestic burdens than males (Chachage, 2001). The gender differences observed might also be attributed to historical cultural attitudes towards female students' learning abilities, viewing them as lacking confidence (Minnaert, 1999). The results in the present study showed that the variations in learning between genders declined as students progressed into Year 2, suggesting the lesser importance of gender differences as a predictor of students' lifelong learning skills.

Similarly, with respect to age, contrary to the common belief that older students tend to perform relatively better than younger students because they are more experienced (Zeegers, 2001), the *t-test* scores in this study indicated that the mean scores were higher for younger students than for older ones during the first phase on the ILS sub-scales of 'certificate-directed' orientation, 'self-test' orientation, and 'personally interested'. No significant differences were found in the second phase. Likewise, while some of the age differences were found to be significant during the first phase, the magnitude of their effect sizes appeared

to be small over time (*Appendix 'D'*), suggesting the minimal practical importance of age differences as a factor in learning.

The results obtained in the present study with regard to age and gender differences suggested that tertiary education experiences equally impact on students' lifelong learning skills, irrespective of their age and gender differences (Vermunt & Vermetten, 2004). It is possible also that any effect of age or gender differences obtained might be attributed to differential representation in the sample between gender and age groups across academic disciplines (*see Table 6.1*).

7.2.3.3 The socio-cultural influences on lifelong learning

The results with regard to socio-cultural influences supported the established perspective in the literature (Brennan *et al.*, 2010; Coffield, 2000a; Foley, 1999) concerning the significance of the social environment and informal learning settings. Consistent with the findings in these studies, the importance of informal learning and the social environment was found to be one of the crucial factors for lifelong learning to occur. The influence of family, friends and significant others was seen by students as a major source of learning encouragement and support for learning for some LLL skills such as 'information skills' and 'entrepreneurial skills'. Students from families with access to information resources and those in contact with friends with access to ICT resources possessed increased information skills compared to others. These findings show the importance of informal learning and the implication that students with inadequate exposure to a suitable social environment might have limited possibilities to access multiple LLL pathways, as suggested in the literature (Coffield, 2000a; Foley, 1999).

The influence of cultural variables was manifested via qualitative findings, which suggested that the development of LLL constructs might also be affected by cultural barriers. At one level, students seemed to be impacted by the institution's cultural practices such as the traditional norms of acquiring and using information and the traditional ways of teaching and learning and of assessing learning. At another level, individual cultural variables such as norms and styles on how someone has traditionally been using information, the lack of

a culture of information-seeking and the lack of a culture of reading were among the factors that curtail the development of lifelong learning skills.

7.2.3.4 Poverty, gender, regional disparities and socio-economic conditions

As illustrated in the theoretical framework (Figure 2.7), the findings confirmed the theoretical assumptions about the impact of Tanzanian contextual factors such as family background, socio-economic conditions and poverty on students' development of LLL skills potential. As noted in various studies such as those conducted by Lugg *et al.* (2007) and Wedgwood (2007), poverty has been identified as one of the key factors that undermines various educational reforms in Tanzania, and is therefore a negative predictor of students' LLL capacity development. A UNDP (2006, p. 135) report estimates that the proportion of people living in poverty below 1 USD in Tanzania to be around 57.8%. Similarly, a study conducted by Lugg *et al.* (2007), based on the 2000/01 Tanzanian household survey, shows that 20% of rural people live in extreme poverty and 39% of them are categorised as poor. It is further argued in these studies that, even though the incidences of poverty are widespread across different communities, a large proportion of the poor live in rural areas (see also, URT, 2010b). From the analysis of the findings in the present study, it seems that within the context of Tanzania and perhaps of other developing countries, the effects of poverty and poor socio-economic living conditions seem to have far-reaching implications for students' development of their potentials for LLL. Compared to students coming from affluent families, students from families with low income seem to have less access to social services including education that would help to raise their potentials for LLL and cognitive learning skills (Lassibille *et al.*, 2000). The majority of them seemed to have joined the university while still not very well prepared. However, even though the limitations reported by students in relation to LLL skills development were shared among students coming from both rural and urban areas, the major concerns seem to be more felt by students from rural areas. These findings are also in accordance with observations by URT (2010b), indicating that in comparison with schools in urban areas, schools in rural areas very often face several problems such as a poor infrastructure, compromised quality, a lack of electrical power and a critical shortage of staff. From the findings, for example, it seems that the access to education opportunities is greater in urban areas.

Significant differences between rural and urban areas also seem to exist in terms of access to the internet and other information resources (Lwehabura & Stilwell, 2008).

With regard to gender, the findings suggest that, despite government efforts to improve the presence of females in education, the gender balance seems to be mainly achieved at the basic level of education but not at the higher education level (Cooksey, 2003; Lugg *et al.*, 2007). As reflected in the sample size in the present study, in comparison with their males counterparts, females seem to be typically under-represented in the science, engineering and technology academic disciplines (see Table 5.1). As stated earlier in Chapter 2, traditionally, females in Tanzania have been deprived of higher education in comparison with their male counterparts. The reasons for this deprivation include cultural barriers and attitudes, teenage pregnancies, customs, taboos and values. For example, in some cultures in Tanzania, particularly in rural areas, females are alienated because they are female and they are encouraged to become family care-takers and housewives (Lugg *et al.*, 2007). There have been several efforts at implementing affirmative actions by the government, but unfortunately most of these efforts have focused on closing the gender gap and realising parity and access without addressing the root cause of norms, traditions and culture.

7.2.3.5 Academic disciplinary contextual influence on LLL

As reported earlier, the examination of the academic disciplinary effects was based on assumptions suggested in previous studies such as those of Biglan (1973), Neumann (2001) and Neumann and Becher (2002). These findings suggest that students' adoption of strategies and approaches to learning differ significantly as a result of the influence from the different teaching and learning cultures encouraged within discrete academic departments.

Even though few systematic significant academic disciplinary differences were found in the present study, the results confirmed findings in previous studies indicating the influence of academic disciplines on learning, especially for the construct of 'deep processing' strategies. The findings showed that students from 'pure-hard' academic disciplines tend to show a greater tendency towards

the use of 'deep processing' strategies than students from other academic disciplines. The ANOVA results in the present study showed that students from Science scored the highest of all students on the 'deep processing' sub-scale. Conversely, students from Accounting scored the lowest on this sub-scale. These findings were in accordance with findings by Vermunt (2005), suggesting that unlike other courses, subjects in natural sciences often require analytical processing strategies for students to be able to reach an understanding of them.

As regards 'entrepreneurial skills', the findings confirmed the earlier supposition of the possibilities for academic disciplinary variations. Consistent with observations in a study by Moreland (2006), it was revealed that Accounting students had a greater tendency towards engagement in 'entrepreneurial skills' such as 'self-employment' than the rest of the students. As Moreland (2006) suggests, one of the possible reasons for Accounting students' greater inclination for this engagement might be due to the fact that Business Studies easily lend itself to entrepreneurial activities in comparison to other academic disciplines. Another possible interpretation might include the fact that, unlike other courses, most ones in the Business Studies undergraduate curriculum are integrated with modules on entrepreneurship. However, the findings also indicated that unlike the rest of students, Sociology students seemed to be more likely to engage in social entrepreneurial activities such as volunteering.

7.2.3.6 Lecturers' contextual influence on the development of LLL attributes

Findings also supported the observations in previous studies by Lindblom-Ylännea *et al.* (2006), Trigwell (2003), and Vermunt (2005) with regard to the possibility for lecturers having a contextual influence on learning. Assumptions in these studies suggest that students' adoption of lifelong learning skills might be differently influenced depending on whether teaching is based on a teacher-centred or a learner-centred approach. Whereas teaching based on a teacher-centred approach largely emphasises content and transmission of knowledge, the teaching based on student-centred principles, is largely grounded on facilitating and encouraging students to learn via construction of their own meanings. Lecturers following a student-centred orientation represent a shift from a transmission of academic content into supporting lifelong learning.

In accordance with Trigwell (2003), the findings in the present study suggested that there were the following two categories of university lecturers: (1) the teacher-centred, whose responsibilities did not go beyond the traditional role of the transmission of formal prescriptions and content, and (2) those adhering to learner-centred teaching orientation, designating a readiness to give maximum support to students' learning in a facilitative manner beyond their traditional teaching roles. The findings revealed that the majority of lecturers appeared to teach on the basis of the teacher-centred mode, mainly equipping students with formal content and knowledge. Only a few of them seemed to accept the responsibility of supporting students' learning beyond their traditional formal teaching. Likewise, for the majority of the lecturers, teaching practices seemed not to conform to supporting learning-to-learn skills among students, as proposed in the literature (Cornford, 2002; Rawson, 2000; Zimmerman, 1986). This kind of teaching seemed to overlook the need for facilitating students to take a primary role in practising learning-to-learn skills such as time management, planning, goal setting and self-evaluation of learning, as suggested in previous studies (Bridgstock, 2009; Bryony & Ulf, 2008; De La Harpe & Radloff, 2008; Rawson, 2000; Vermunt, 2003).

One possible explanation for lecturers' failure, as revealed in these findings, to implement a learner-centred approach to teaching that would promote LLL appears to be the lack of appropriate professional training in how to facilitate high-quality student learning as well as of course poor teaching and learning environments. As the findings suggest, the majority of university lecturers seem to enter the teaching profession with inadequate professional training (see also Gibbs & Coffey, 2004). Findings also suggested that there was a lack of strict mechanisms for evaluating the teaching abilities and teaching methodologies adopted by lecturers. Another possible explanation for the lack of emphasis on the promotion of learner-centred approaches to teaching might also be the result of widely accepted beliefs and attitudes among lecturers that their major responsibility was merely the dispensation of relevant content and knowledge to students, as opposed to helping students to learn.

7.3 Chapter summary

The discussion of the major findings in this chapter was organised on the basis of the three major research questions addressed in the study. The discussions with regard to the contextual influence of policy were based on the findings from the content analysis and a critical review of policy documents together with interview findings from elite policy makers. The discussion revealed the presence of inadequate national and institutional policies for comprehensively addressing issues related to lifelong learning and higher education in Tanzania. Some of the possible reasons for the absence and slow implementation of lifelong learning and higher education policies were attributed to factors such as ambiguities in the formulated policies, ideological and historical effects, and the general influence of inadequate resources to support the implementation of different LLL policy goals. Some researchers such as Galabawa (1990) attribute the general slow implementation of educational policies in Tanzania to problems such as the economic recession of the 1980's, population growth and increasing student enrolment.

The above discussion of findings with regard to variability and consistency in students' LLL attributes between phase 1 and phase 2 showed that some of the assumptions made were supported while others were not. The findings supported the theoretical assumptions made on the decreases in the ILS mean scores of the 'stepwise processing' strategies, 'certificate-directed' learning orientation and 'external regulation' sub-scales. By contrast, the constructs of 'deep processing', 'concrete processing' and 'entrepreneurial skills' did not evolve after Year 1 of the students' studies as expected. The results with regard to the absence of changes in 'deep and concrete approaches', however, were in line with previous studies such as those of Busato *et al.* (1998) and Vermunt and Vermetten (2004), suggesting that changes in those constructs take much longer to evolve.

The discussion of findings with regard to personal and contextual variables has revealed that in accordance with studies such as Lindblom-Ylännea *et al.* (2006) and Vermunt (2003), the contextual factors such as academic disciplines, university lecturers, poverty, and the students' social environment seemed to be important predictors of students' LLL skills. Similarly, the discussion above

confirmed that personal factors such as ‘personal agency’ were also important predictors of students’ adoption of learning strategies and approaches.

On the whole, in accordance with previous studies (for example, Entwistle & Ramsden, 1981; Entwistle & Ramsden, 1983; Vermunt, 2005) the students’ development of LLL attributes seem not to be influenced by a single factor but rather by numerous personal and contextual variables. A student’s change in LLL attributes therefore might or might not occur depending on factors within the student, factors within the university and factors within the large environment surrounding the student (*see Figure 2.7*).

Chapter 8

Conclusion, major research findings and implications for research and policy

8 Introduction

This final chapter constitutes the conclusion of the study. It presents the study's major findings, implications for policy, limitations, and suggestions for future studies. The chapter is sub-divided into five major sections. Section 8.1 of this chapter offers an overview, and is followed by section 8.2 which summarises the main findings from different empirical chapters of the study. The contribution of the thesis to literature is provided under section 8.3.1, and the practical and policy implications of the study are provided under section 8.3.2. Finally, section 8.4 of this chapter indicates the limitations of the study and suggests possible avenues for further directions of the research, and is followed by concluding remarks in section 8.5.

8.1 An overview of the thesis

As reported earlier, this study set out to investigate undergraduate students' development of LLL attributes, namely, 'learning-to-learn' skills, 'personal agency', 'information skills' and 'entrepreneurial skills' at the UDSM, which is one of the public universities in Tanzania. On the basis of the pre-existing models such as those of Candy (1991), and Pascarella and Terenzini (2005), the assumption in this study was the proposition that there would be some evidence of the students' development of LLL skills and behaviours as they progressed in higher education. It was further hypothesised that such skills might vary across the types of respondent and across contexts. The original motive in carrying out the study was to establish the extent to which individual and institutional university experiences contribute to such capabilities. In order to comprehend the issues and address the research questions in a comprehensive manner, the data for the present study were gathered at two points in time using a longitudinal mixed methods research design and involved 421 undergraduate students.

8.2 Main research findings

The study addressed three key research questions. Accordingly, the summary of the findings in this section are organised on the basis of these major research questions.

8.2.1 Validity and reliability of the instruments

Prior to data collection, the validity of the ILS and the ISS items and scales was ascertained through a rigorous check, which involved consulting a wide range of literature, and through consultation with experts in the field of student learning in HE. The internal reliability of the scales was computed using the Cronbach's alpha coefficient values. With regard to the ILS scale, the internal reliability values indicated that with the exception of the 'personally interested' sub-scale of which the Cronbach's alpha coefficient values were .18, the reliability values for the majority of the ILS sub-scales ranged from .45 to .82. With respect to the ISS scale, the Cronbach's alpha coefficient values obtained ranged from .46 on the 'accessing information' sub-scale to .67 on the 'managing information' dependent variable.

Comparing these results with previous studies (for example, Busato *et al.*, 1998; Vermetten *et al.*, 1999 for the ILS) and (Catts, 2005, 2007; Clark & Catts, 2007, for the ISS), the reliability values for some of the sub-scales in both the ILS and the ISS appeared to be relatively low. The lower reliability values, however, suggested the influence of the Tanzanian pedagogical and methodological cultural contexts, which interestingly has been reported to be a common phenomenon for studies conducted in non-western contexts (Ajisukumo & Vermunt, 1999; Joy & Kolb, 2008; Marambe *et al.*, 2012). As the subsequent sections suggest, the findings indicating the influence of cultural contexts reveal the need for further studies to be conducted in non-western contexts so as to ascertain the reliability of using the ILS and ISS inventories in such non-western contexts.

8.2.2 The policies' influence on the integration of LLL in Tanzania

Drawing on the analytical framework proposed by Molle (2007), the policy analysis in this study adopted an approach drawn from critical theory (Codd,

1988), in which the researcher examines the values, assumptions and ideologies underpinning the policy process. In particular, the study examined the extent to which national and institutional policy contexts impacted on the integration of LLL in higher education.

The important finding with regard to policy was the observation that there were inadequate national and institutional policies for addressing the issues related to higher education. The findings relating to the integration of LLL into the Tanzanian education system, for example, revealed that there was inadequate recognition and integration of different forms of learning other than formal education. The importance of a well-integrated education system that would allow the maximum interaction between, and support from, different modes of learning has been acknowledged in many of the previous studies as a critical aspect in the fulfilment of all possible means of learning, including that which is formal, non-formal and informal (see Aspin *et al.*, 2001; King, 1982; Malcolm *et al.*, 2003; Mwaikokesya, 2012; Torres, 2009).

The findings also revealed that, even though several reforms had been carried out and legislation enacted since independence in Tanzania, many of the pertinent issues underlying lifelong learning, such as the poor access to education and the compromised quality of education, seem nevertheless to have remained unresolved. Other factors included policy ambiguities in the use of different terms such as 'education society', 'adult education', 'lifelong learning' and 'continuous learning'. Controversy also seemed to exist between policy intentions or goals and the reality in practice. The findings indicated that other controversies existed, including a tendency for educational policies, such as the '*Education and Training Policy*', to promote narrow basic levels of skills, particularly the 3Rs (that is, the ability to read and write and do simple arithmetic), as opposed to focusing on complex skills such as the information skills essential for individuals to function in an increasingly globalised world (Bundy, 2004; Catts, 2007). The analysis of the prevailing formal educational policy initiatives in Tanzania also revealed that there was a lack of any holistic vision regarding LLL; the majority of the policies principally focused on a minimalist view, emphasising the provision of adult and traditional literacy

education without due emphasis on students' development of learning-to-learn skills and related LLL attributes.

At a micro-level the findings suggested a discrepancy between visions or intentions and the actual reality. Even though the university expressed its ambitions to promote students' LLL skills, the content analysis of the various policy documents suggested a lack of evidence to support the presence of a comprehensive university LLL policy backing-up the ambitions contained in the noble visions. Given the paucity of policies on LLL, most of the efforts and initiatives related to this area seemed to be disjointed and curtailed by many other factors including poverty and a lack of proper resources.

The findings also suggested the presence of a policy controversy emanating from the tension between 'quality' and 'quantity' in higher education. The government and the university seemed to face a dilemma due to the need for the government to fulfil its legal obligations to provide adequate and equitable education and at the same time maintain quality. Despite a rapid increase in student enrolment since 1994, there had been no parallel increase in the teaching and learning infrastructure and resources at the University, thus negatively impacting LLL. Critical shortages of infrastructure were reported in relation to teaching rooms, working space, seminar/practical rooms, laboratories and staff offices as well as staff and student' accommodation with most of the available infrastructure being seriously dilapidated.

8.2.3 The consistency and variability in 'learning-to-learn', 'personal agency', 'information skills' and 'entrepreneurial skills'

The major findings with regard to the variability and consistency of scores over time based on the *t-test* (paired) statistic indicated that the initial expectations were partly confirmed and partly rejected. The results supported the theoretical assumptions made with regard to a reduction in the ILS sub-scales of 'stepwise processing strategies', 'external regulation', and 'certificate-directed learning orientation'. By contrast, the constructs of 'deep processing', 'concrete processing' and 'entrepreneurial skills' did not evolve after Year 1 of the students' studies as expected. The results with regard to the absence of changes

in 'deep' and 'concrete' approaches, however, were in line with previous studies by Busato *et al.* (1998) and Vermunt and Vermetten (2004), suggesting that changes in these constructs take much longer to evolve. The results indicating a reduction in 'stepwise processing' strategies were also in accordance with the findings of Severiens *et al.* (2001), suggesting that 'stepwise processing' strategies become less as students proceed in higher education.

With regard to 'regulation strategies', the longitudinal results indicated a statistically significant reduction over time in both 'external regulation' and 'self-regulation' sub-scales. Even though the reduction in 'external regulation' strategies was expected, the reduction in 'self-regulation strategies' rejected the hypotheses made earlier. The quantitative results concerning a reduction in 'self-regulation', however, seemed to be complemented by the qualitative findings, which indicated that lecturers had a greater preference for, and emphasised more, 'external regulation' strategies unsupportive to lifelong learning. As revealed in the qualitative findings, such practices included the use of teacher-centred teaching rather than learner-centred approaches, an emphasis on teaching and assessment procedures encouraging the reproduction of content and an emphasis on 'external regulation' learning strategies.

Concerning 'learning orientations', a statistically significant decrease over time was found in the 'certificate-directed' and 'self-test learning' orientations. Whereas the decrease in 'certificate-directed' was as hypothesised, the reduction in 'self-test' learning orientation was against earlier expectations. The reduction in students' 'self-test' learning orientation over time was interpreted as the possible result of a prevalent tendency in academic departments to put less emphasis on students' abilities for self-judging of learning, as reported in the qualitative findings.

The results with regard to information skills indicated a statistically significant increase for three dependent variables, namely, 'ethical use of information', 'accessing information' and 'evaluating information', all with small effect sizes. One of the possible explanations for the small effect size could be the historical marginalisation of students' access to information resources in Tanzania, related to both prior experience and experiences after joining higher education. Such findings have also been acknowledged in previous studies such as those of

Chachage (2001). The qualitative results, however, indicated that the majority of participants experienced some improvements in 'information skills' over time. The findings revealed that the limitations hampering students' development of 'information skills' included the low levels of information resource infrastructure and training as well as the influence of individual and institutional cultural factors, including norms and attitudes.

In terms of 'entrepreneurial skills', the findings indicated a declining trend, in which almost 35% of the students reported that they had engaged in social entrepreneurial activities such as volunteering in the community during their secondary education but not during their education as university students. The only form of entrepreneurial activities reported by students (about 30% of all students) was their participation in informal organisations and networks within the university, suggesting the possible importance of this form of informal learning environment in promoting LLL. The lack of changes in entrepreneurial engagements (including social- and business-related) could also be explained by factors such as the lack of an institutional policy and an unsupportive university environment, noted earlier in Chapter 4.

Finally, with respect to the effect of gender and age differences over time, the longitudinal data indicated that there were significant variations for some of the ILS and the ISS dependent variables between phase 1 and phase 2. However, despite the findings indicating that there was some effect of variations in gender and age over time, the effect size of these changes was relatively small and the effect of age and gender differences on learning seemed to diminish and become less important over time.

8.2.4 The personal and contextual variables influencing LLL

The important findings with respect to the personal and contextual variables were the consistency of the findings with previous studies, such as those of Entwistle and Ramsden (1983), Ramsden (1985) and Vermunt (2005), suggesting that personal and contextual variables are an important factor that influences participants' development of LLL skills in higher education.

The statistical correlation results indicated that personal variables such as the students' beliefs about learning could influence the choice of 'processing strategies' and 'regulation strategies'. The correlation analyses confirmed the initial hypothesis regarding the association between 'learning orientation's (that is, personal agency) and students' choice of strategies and approaches to learning, especially for the construct of 'ambivalence' orientation. In line with previous studies, such as those of Phan (2008), and Zimmerman and Cleary (2006), for the major variables relating to lifelong learning (that is, 'deep processing', 'information skills', 'self-regulation', 'concrete processing'), a consistent moderate negative association was found with learning orientations unsupportive of LLL, namely, an 'ambivalent' orientation. On the other hand, in accordance with empirical findings by Busato *et al.* (1998), consistent positive correlation results were also found between the reproduction constructs unrelated to LLL, namely, 'lack of regulation' and 'ambivalence'. The results suggested that students with 'ambivalent' learning orientations were unlikely to adopt lifelong learning skills such as 'self-regulation' or 'deep learning' strategies. Consistent with previous studies such as those of Donche *et al.* (2010) and Zimmerman and Cleary (2006), an 'ambivalent' learning orientation was found to be a negative predictor of students' adoption of LLL attributes. Even though the correlation coefficients of the associations were relatively weak, these results might suggest that the students' personal beliefs about learning are important predictors of their development of LLL attributes such as 'information skills' and 'deep processing' strategies.

As reported earlier in the longitudinal findings, with regard to age and gender, even though some variations were found, the effect size of differences seemed to be small (*See Appendices 'D' & 'E'*). The results, for example, indicated that females scored significantly higher on 'external regulation' strategy than males. In contrast, male students had significantly higher scores on 'evaluating information' skills than females. Additionally, as reported above, the trend in these results suggested that there was a reduction in age and gender variations over time, meaning that age and gender were becoming less important predictors of lifelong learning skills over time.

With regard to the effect of contextual differences within academic disciplines, there was a statistically significant difference for 'deep processing' and 'concrete processing' sub-scales but not on the 'stepwise processing' sub-scale. Whereas only Science students scored higher on the 'deep processing' sub-scale, both students from Sociology and Science scored higher on the 'concrete processing' strategies. One of the possible interpretations for the higher scores on 'vocation-directed' for engineering students might be the emphasis placed on the engineering profession and employment for these students in comparison to other academic disciplines. No multi-variate effect for the context of academic disciplines was found with regard to 'regulation strategies', which suggested the possibility that students across academic disciplines were using similar regulation strategies. These results could also be interpreted through the qualitative findings, which revealed that there was a dominant use of 'external regulation' learning strategies among the majority of students, regardless of their academic disciplines.

In relation to the 'learning orientations', statistically significant differences were found for a 'certificate-directed' learning orientation, in which Science students had the highest scores of all students from the four academic disciplines, implying their higher motivation for passing exams and acquiring credit points and degrees in comparison to other academic disciplines.

Non-significant differences related to the type of academic discipline were found for 'information skills'. The qualitative findings, suggested that the influence from lecturers and friends on students' development of information skills was more important than the effect from the contexts of their academic disciplines. Variations also emerged in the extent to which the academic disciplines and traditions influenced the development of 'entrepreneurial skills' of students. Students from Business Studies subjects such as Accounting seemed to be more likely to develop business-related entrepreneurial skills such as self-employment than the rest of the students. Similarly, students from Sociology appeared to be more motivated to engage in social entrepreneurial activities from altruistic motives as opposed to from a desire for personal gains. One of the possible reasons for these results might be the different emphasis given to this activity and its traditions in each of the UDSM's academic disciplines.

The findings also revealed that lecturers provided one of the crucial contextual variables influencing the students' development of LLL attributes. As noted in Chapter 6, the findings indicated that the different teaching and assessment procedures adopted by lecturers might lead to different student learning outcomes. Other lecturer-related contextual factors from the students' perspectives included poor support for learning from lecturers who were inhibited by a lack of time to assist them with learning difficulties, and a lack of provision to enhance learning following lectures. The other limitations from the students' perspective included the feeling that the majority of the lecturers were not ready to support them with learning-to-learn skills; instead most of the support focused on providing learning materials and content, suggesting an emphasis on the reproduction of what was being taught. However, from the perspective of the lecturers, the factors undermining a supportive lifelong learning environment included: large class sizes, which constrained the effective facilitation of learning; insufficient foundations for learning amongst students; and the absence of a culture of learning. Other barriers included the lack of professional training among lecturers and poor instructional resources and infrastructure.

Finally the qualitative findings also revealed that there was a significant influence from social contextual factors such as poverty, the influence from family and peers on the acquisition of some of the LLL skills. Consistent with previous studies (for example, Brennan *et al.*, 2010; Coffield, 2000a; Foley, 1999), these findings suggested the importance of social and informal learning environments on the students' development of LLL attributes, particularly those of 'information skills' and 'entrepreneurial skills'.

8.3 Contribution

The contribution from this thesis has two major strands. On one hand, it makes a contribution to the general theory of teaching and learning in higher education, adult education and LLL, and learning programmes in the broadest sense. On the other hand, as delineated in section 8.3.2, the study provides insights of interest to Tanzanian government and institutional policy makers, practitioners in the field of higher education and those in the field of educational planning within the context of developing countries.

8.3.1 Contribution to literature

This study has researched the relationship in education between higher education and the development of LLL attributes in students. Besides the examination of the state-of-the-art, addressed in Chapter 4 with regard to students' development of lifelong learning skills in Tanzania, the study assessed the ways in which academics and the university might improve efforts to facilitate students' learning as well as ways in which students might be assisted to develop these skills even further (*Chapters 5 & 6*). The study therefore adds to the accumulating evidence concerning the need to transform higher education institutions into institutions of LLL (Candy, 1991; Candy *et al.*, 1994; Duke, 2002; Knapper & Cropley, 1985, 2000), particularly in the context of developing countries.

In addition the study extends the research on students' learning approaches and regulation strategies theory (Entwistle *et al.*, 2003; Marton & Saljo, 1984; Vermunt, 1998) into the realm of students' adoption of LLL principles by considering the question of how best the four concepts studied could be integrated into the Tanzanian higher education system. In this regard, the study contributes in several ways to the literature and theory about learning in HE and about students' development of LLL attributes in the four studied constructs: 'learning to learn', 'personal agency', 'information skills' and 'entrepreneurial skills'. It makes contributions to a greater understanding of the state-of-the-art, and how best these concepts can be integrated into higher education in Tanzania. No other study of this nature has been conducted before in the Tanzanian context. The few studies such as that conducted by Hebestreit (2006) that had been conducted in related areas seem not to have been comprehensive enough. In addition, those studies also seemed not to pay adequate attention to students' development of LLL attributes. The majority of previous research in the field was conducted in the context of western countries or African countries other than Tanzania (*see Chapter 1*).

Additionally, from the perspective of utilising the ILS and ISS inventories in the Tanzanian context, the findings of this study also make a contribution in different ways to the research literature on students' approaches and strategies to learning. In particular, this study contributes to the theory by confirming or

disproving the results from previous studies on the reliability and validity of the ILS and ISS instruments in a non-western context. As reported earlier, both the ILS and the ISS research instruments were validated in a western context. Their use within a non-western context might offer future researchers some insights. None of the previous studies using the ILS and ISS examined the reliability and validity of these instruments in the context of Tanzania.

Finally, the study also makes a contribution to methodological knowledge in relation to researching lifelong learning and higher education, particularly in the context of Tanzania. As stated in Chapter 3, research studies that use a mixed method longitudinal approach to research are quite rare (McCune, 2000; Vermetten *et al.*, 1999). By conducting a study that uses data from both quantitative and qualitative sources with a longitudinal design, it has been demonstrated that it is possible to enhance the objectives of such a study in order to comprehend the issues and processes underlying students' development of LLL attributes in Tanzania through the use of mixed methods research.

8.3.1.1 Contribution to theory

From the perspective of theory development, the study on undergraduate students' development of LLL attributes was based on a synthesis and extension of different concepts and research streams, reported earlier in Chapter 2. This study extended the theoretical models by scholars such as Illeris (2009) and Tudor *et al.* (2010) by specifying the role of individual and contextual factors in LLL attribute development (see also Figure 2.7; Brockett & Hiemstra, (1991)). In particular, the study was based on theorising and testing the model in relation to the adoption of four concepts, namely, 'learning-to-learn' skills, 'personal agency', 'information skills' and 'entrepreneurial skills', against the four academic disciplines (Accounting, Engineering, Science and Sociology). The present study contributed to theory because even though the issue of mediation by individual and contextual variables has been studied in previous works (for example, Ramsden, 1985; Vermunt, 2005), the empirical results have not been considered in the African cultural context. Thus, a specific theoretical contribution of the present study is to shed further light on the issue of the influence of individual and contextual factors by testing the model within the Tanzanian cultural context.

8.3.2 Practical contribution

From the applicability standpoint, the findings from the present study are of particular importance to the field of higher education since they contribute to the rarely studied issue of integrating LLL into higher education, which represents one of the radical moves from traditional teaching approaches (Duke, 2002; Faure *et al.*, 1972; Knapper & Cropley, 2000). Since the study considers the question on how the general university contextual and individual experiences might lead to students' development of LLL attributes, several practical implications can be drawn from it as given below.

8.3.2.1 Implications for academics, students and administrators

Even though the primary goal of the present study was not to focus entirely on classroom practices, the empirical results from it have many implications for academics, administrators and students.

University administrators and academics should ensure that they adjust the learning environment so that it becomes more supportive of high-quality learning and helps students to develop learning-to-learn and related lifelong learning skills. As opposed to the traditional focus on teaching in which a lecturer is viewed as the dispenser of knowledge, academics might need to change their attitudes and recognise their primary role as facilitators who should equip students with long-lasting skills to learn. The teaching function of lecturers should be conceived as 'all those functions that promote high-quality student learning' (see Vermunt & Vermetten, 2004, p. 363). The academics' recognition of this role rather than their being merely dispensers of knowledge is important in order for them to transform their teaching from being passive transmission into a totally different and exciting educational culture, embracing practices that encourage active learning and the meaningful construction of knowledge.

The transformations needed among lecturers may include a consideration of the ideas suggested in previous studies such as that of Rosenshine and Stevens (1986), who showed that good teaching activities are constituted by components that include explaining relationships within the subject matter, giving examples, planning the learning process, monitoring students' progress and motivating

students. Similarly, when organising their classroom teaching activities, lecturers might need to take into account that their major role is to support students in terms of developing abilities for planning and evaluating their own learning. To alter the views of academics about their principal responsibility from being that of dispensing knowledge to the realisation that they should rather be equipping learners with learning-to-learn skills, sensitisation and training might also be necessary. As indicated in Chapter 2, it is also important that lecturers assume multiple roles such as being mentors, coaches, facilitators and evaluators, within which roles might include the demonstration or modelling of generic attributes (for example, self-management, goal-setting, monitoring and evaluation) to learners (Hager & Holland, 2006, p. 8).

Currently, lecturers with higher qualifications such as PhDs feel that they no longer need to learn. It is important that this view of professional development changes into considering it on the basis that 'one never finishes learning'. At a formative level, the University might need to create a time-to-time training environment in which lecturers keep on sharing practices and start conversations/debates aimed at changing practices from content based/teacher based teaching into a teaching sensitive to the promoting of attributes such as 'learning-to-learn' and 'self-regulation' as well as other innovative approaches likely to enhance high-quality teaching.

Professional development might also take the form of less-structured professional development schemes such as mentorship that are likely to promote 'communities of practices' (Lave, 1991, p. 42). The findings in the present study suggested that, even though mentorship programmes exist, they are less coordinated and less emphasised. These mentorship programmes can take the form of spontaneous interaction with colleagues, reflection on individual experiences or inter-departmental exchange of good practices. Examples at the UDSM might include departments learning innovative ways of teaching from each other, such as leaning from business school on how to teach through the use of participatory methods like case studies, or how to integrate 'entrepreneurial skills' in the curriculum. Such opportunities for informal knowledge exchange can provide rich avenues for professional dialogue and learning. Mentoring schemes might also include senior members advising mentees on issues such as,

best practices, introduction to key people in the field, and publishing and writing skills. Researchers' personal experience suggests that the majority of the junior university staff do not acquire publishing and writing skills until they join the doctorate programmes. Perhaps, this might be reversed by the consolidation of these types of mentoring schemes.

With respect to students, since the findings in this study showed that the majority possess the view that the role of the university and the role of lecturers is that of dispensing knowledge (a perspective also shared by many of the lecturers), it is crucial that this view be transformed through training and awareness programmes.

It also seems from the findings that this view dominates among students as they progress in higher education. For undergraduate university education to develop students as lifelong learners, this view might need to be transformed so that students start seeing the importance of taking more personal responsibility for their own learning and start viewing course lecturers as guides (Brockett & Hiemstra, 1991; Candy, 1991; Knowles, 1975).

8.3.2.2 Implications for policy and practice in HE institutions

A number of policy implications emerging from the findings from the present study can in fact be developed as recommendations. Overall, the findings suggested the need for some policy extensions and transformations in the existing HE teaching and learning policies. Despite the reforms which have already been put in place (*see Chapter 1*), there is still a clear need for further changes to be made in the education system in Tanzania to suit and support students' meaningful learning from a LLL perspective.

For the traditional academic units to operate in a manner that is favourable to the promotion of students' development of LLL attributes, it is crucial that a re-examination of the overall goals and objectives of teaching and instruction, and the context in which education is offered is made. Since the findings in this study have indicated that, despite the growing rhetoric about LLL in different national and University policy documents, there appears to be only scant evidence concerning the implementation of LLL aspirations, and so a

considerable cultural and organisational change might therefore be necessary. It is also essential to review and analyse the inputs to the educational system such as the nature and quality of academics, the teaching and learning environment and the general university infrastructure. In contrast to the traditional focus on practices in which academics focus on equipping students with academic content for future use, there could be a shift to policies and practices that aim at supporting students to acquire learning-to-learn skills that would allow them to learn independently and collaboratively in a constructive and sustainable manner.

Given the shift in the Tanzanian employment market in the public sector, discussed earlier in Chapter 4, it is essential also that university education acquaints its graduates with generic skills that will make them more able to stand on their own and/or compete in the global and regional employment market. University policies and the educational policy at large need to be re-shaped from a focus on the provision of content to a focus on the personal and social development attributes of learners (Candy *et al.*, 1994; Knapper & Cropley, 2000).

The findings in the present study have also revealed that under the current educational administrative set-up, the majority of administrators are mainly charged with duties such as organising teaching, processing examinations and approving examination results with little engagement in fostering student learning. It seems that many of these tasks are based on the teacher-centred model and that very little is being done with regard to supporting, handling and maximising high-quality student learning. It is important that a unit be established to handle and support student learning, related to matters such as mathematical and statistical problems, research skills and other necessary student skills relating to learning-to-learn. Similarly, since the academic departments where the academics and students are housed are primary units that play significant roles in organising formal and informal learning experiences and in providing students with values and skills related to LLL, it is crucial for the units at this level to establish some mechanisms that will make sure that meaningful learning takes place.

Finally, the findings in this study revealed that it was mainly students from applied academic disciplines such as Accounting who felt that their university courses were relevant to 'entrepreneurial skills' development. There is a clear need for other units large to introduce or improve programmes aimed at exposing students to generic skills related to entrepreneurship and information literacy. With regard to entrepreneurship, the programmes and the content taught might not necessarily need to be the same across faculties but rather could be contextualised according to each discipline; for instance, entrepreneurship taught in Sociology may differ from that taught in Engineering.

8.4 The study limitations and future research

Although the findings gleaned from the various empirical chapters in the present study might have yielded some interesting and potentially valuable findings, further research is indispensable due to a need to broaden knowledge and understanding of the issues involved. Further research is particularly important due to the likely limitations emerging from the choice of methodology and research design appropriate for addressing the complex of LLL. As reported earlier, the present investigation was the first study to be conducted in the context of Tanzania to examine undergraduate students' development of LLL attributes. It is important that several cautions be taken into account when the generalisations from the findings in this study and the implications for further studies are drawn. Generalisations should be considered in the light of the limitations discussed below.

8.4.1.1 Limitations

Firstly, the findings are limited by the choice of the sample and the area of study, particularly the idiosyncratic nature of the research settings (factors specific to this particular university environment) that might have influenced both the participants' experiences and the results. Even though the sample for this study was picked from four theoretically distinct academic disciplines representing the 'hard-pure', 'hard-applied', 'soft-pure' and 'soft-applied' disciplinary categorisation (Becher, 1989), the ability to draw generalisations from this study might be limited because the study utilised a convenience sample from a single public University.

Given the importance of using multiple sources of data, the researcher aimed at using students' diaries as one of the research methods, a robust approach for gathering detailed and intimate qualitative data on teaching and learning trajectories (Biesta, 2008). The findings in the present study may, however, be limited due to the difficulties that arose in administering the students' diaries. As indicated in Chapter 7, despite the efforts made in administering this instrument as one of methods for data collection, the method did not work as expected. Future studies might consider the use of students' diaries in order to uncover more complex reflections on learning behaviours and student perceptions of experiences with lecturers.

Lastly, the other potential limitation in applying the results from this study might arise from the time limitations involved in conducting a longitudinal study. As reported earlier, the period of one-year difference between the first phase of data collection and the second for a longitudinal study was relatively short for significant changes to be observed in a comprehensive manner (see Bauer, 2004). As reported in Chapter 3, to minimize the effects of using a longitudinal study as a standalone approach, the researcher used cross-section data along with longitudinal.

Given these limitations, it is important to acknowledge that there might be alternative or more plausible ways of interpreting the findings obtained. The possible avenues for future research are recommended under section 8.4.1.2 below.

8.4.1.2 Direction for future researches and studies

Based on the findings and the limitations in the present study discussed above, the researcher recommends future researchers and studies to engage in extending and exploring current findings. Future studies might take different directions including the following.

Firstly, even though the current longitudinal study on the consistency and change of LLL attributes has provided some evidence with regard to the extent higher education in Tanzania contributed to students' development of lifelong learning attributes, further research of a much longer duration might be needed

to ascertain the consistency and the changes observed in the present study. A similar recommendation was given by Vermunt and Verloop (2000, p. 86) suggesting that in order to ‘better understand and document the developmental trends that emerged from the study, a longitudinal research in which students are followed in their development as learners for a considerable period of time would be indispensable’.

Secondly, the present study sets the stage for future studies to be conducted to establish further cultural and contextual influences on the use of ILS and ISS by focusing on aspects such as convergent and discriminant validity. Such studies could aim at looking for possibilities to reduce the instruments to a manageable core using statistical procedures such as exploratory and confirmatory factor analysis and to establish whether the instrument can be applied across different groups.

Thirdly, since the sample in the present study was drawn from a single public University, future directions in related research might take a different approach by replicating a similar study but picking a more diversified university sample from both public and private universities.

Fourthly, since the present study utilised many different variables (‘learning-to-learn’ attributes, ‘personal agency’ attributes, ‘information skills’, and ‘entrepreneurial skills’) in a single study, future research might aim at conducting separate in-depth studies in each of the constructs researched for example, undergraduate students’ development of ‘entrepreneurial skills’, or the development of ‘information skills’, or students’ development of ‘learning-to-learn’ attributes etc.

As noted earlier, since the results in this study suggested that some of the discrepancies between the present study (conducted in a non-western context), and previous studies reported in the literature (conducted in a western context) were on the basis of cultural and contextual factors; there is a clear need for further studies to be conducted in non-western contexts so as to ascertain the reliability of using the ILS and ISS inventories in such non-western contexts.

Next, since the present study focused on the first-year undergraduate students' development of LLL attributes, it could be expected that undergraduates' development of LLL attributes would differ from a study using a sample at other stages of higher education. This is because the findings in this study indicated that constructs such as 'deep processing', 'concrete processing' and 'self-regulation' seemed to be not well developed during the first-year of study. Assuming that such constructs might evolve in the later stages of higher education, future directions for research might be based on conducting a similar study focusing on the higher levels of higher education such as the third-year of final-year students, postgraduate students or even among the academic members of staff.

Finally, future directions in research might focus on students' development of LLL attributes in the lower levels of education such as secondary school or even primary school. This is mainly because the findings in this study have suggested that students' development of LLL attributes at tertiary level is partly influenced by what had happened to them in the lower levels of education such as primary school and secondary school (*Chapter 5*). It might be interesting therefore to conduct further studies to confirm this postulate.

8.5 Conclusion

The present study has gathered evidence to address three broad questions with regard to understanding undergraduate students' development of LLL attributes in Tanzania. What has been discovered is that there are inadequate national and institutional policies to comprehensively address the issues in relation to university undergraduate education and the promotion of students' development of LLL attributes. It has also been discovered in this study that even though the examination of the students' development of LLL lasted for only one year, there was nevertheless some evidence in line with previous studies such as those of Pascarella and Terenzini (1991) to suggest that higher education contributes to student change and improvement in lifelong learning skills. However, this change seems to occur quite slowly and not within all attributes of LLL. It has also been clearly learnt that the students' development of LLL attributes may or may not be manifested for a number of reasons, among which are personal factors (for example, poverty, socio-economic background, cultural background

and study motives), factors in the learning environment at university including institutional and departmental norms and traditions, and the influence of the social environment surrounding the students. Combining the information from different research questions, it can be concluded that, consistent with previous studies (for example, Entwistle *et al.*, 2003; Ramsden, 1985; Vermunt, 2005), the development of LLL attributes and the way students learn is not a straightforward matter and might be affected by a ramification of many different personal and contextual factors in the environment and in the students themselves.

When I step back and reflect on my own personal experience as a lecturer and a reflective researcher, I am aware that my own story represents one of the quests for praxis to give my own practices a critical dimension. Through my own previous university teaching practices, I have become conscious of my actions and aware of the effect of some of my teaching practices. Consequently, I now realise there are many messages to be learnt from the findings of the present research. Throughout my lengthy PhD research journey, my worldview about both learners and teaching and learning processes has changed considerably. I have been able to learn that the subject of teaching and learning in higher education and LLL is extremely complex. Considering the findings from this study and the fact that university academics appear to be at the centre of student learning as critical agents for change and as part of the contextual variables influencing the development of lifelong learning skills, I am now even more aware of the need to transform my own practices and orientations, as well as those of other lecturing staff, towards students. It is now important for me to go beyond considering the teaching process as a mere formal classroom performance, aimed at imparting knowledge to be reproduced, and engage fully in more subtle but ultimately more satisfying processes, involving insightful planning and the creation of effective high-quality learning environments.

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Appendices

Appendix 'A'

Fieldwork Instruments

KEY VARIABLES		Fieldwork instruments										
		Questionnaires		Student interviews		Staff interviews				Documents	Diary	
		1 st phase	2 nd phase	1 st phase	2 nd phase	Lecturer	Uni. Official 3	Uni. Official 2	Uni. Official 1	Ministry		
Personal	<i>O-level education</i>	○		○								
	<i>A-level education</i>	○		○								
	<i>origin (rural/urban)</i>	○		○								
	<i>Expectations</i>	○		○								
	<i>Marital status</i>	○		○								
	<i>Prior activity/ job</i>	○		○								
	<i>gender</i>	○		○		○	○	○	○			○
	<i>Prior learning</i>	○		○								
	<i>Degree programme</i>	○		○								
	<i>Courses selected</i>	○		○								
	<i>Age</i>	○		○		○						○
	<i>Academic discipline</i>	○	○	○	○	○		○				
<i>Future learning</i>	○	○	○	○								

		Questionnaires		Student interviews		Staff interviews					Documents	Diary
		1 st phase	2 nd phase	1 st phase	2 nd phase	Lecturer	Uni. Official 3	Uni. Official 2	Uni. Official 1	Ministry		
Family	<i>Family Members level of education</i>	○		○								
	<i>Parents job</i>	○		○								
	<i>Family income</i>	○		○								
Information literacy skills	<i>Information literacy general</i>			○	○	○	○	○	○	○		
	<i>finding needed information</i>	○	○									
	<i>critical evaluation of information</i>	○	○									
	<i>managing information collected</i>	○	○									
	<i>applying prior & new information</i>	○	○									
	<i>Ethical use of information</i>	○	○	○	○							
Learning-to-learn skills	<i>Self-regulation skills</i>	○	○									
	<i>External regulation skills</i>	○	○									
	<i>Lack of regulation</i>	○	○									
	<i>Self-assessment skills</i>	○	○	○	○							
	<i>Managing learning</i>			○	○	○						
	<i>Planning for learning</i>			○	○							
Approaches to Learning	<i>Deep approaches</i>	○	○	○		○	○	○	○		○	
	<i>Stepwise processing</i>	○	○	○		○		○				
	<i>Concrete Processing</i>	○	○	○		○		○				○

Appendix 'B'

Changes in mean scores for learning orientations, learning strategies & approaches to learning by gender between time 1 and time 2

	<i>Male</i>		<i>Female</i>		<i>Male</i>			<i>Female</i>		
	<i>Time 1</i>	<i>Time 2</i>	<i>Time 1</i>	<i>Time 2</i>	<i>t</i>	<i>sig</i>	<i>d</i>	<i>t</i>	<i>sig</i>	<i>d</i>
Processing strategies										
<i>Deep Processing</i>	39.00 (5.307)	38.82 (5.654)	37.66 (5.562)	37.69 (5.706)	.462	.644		-.048	.962	
<i>Concrete</i>	20.01 (2.612)	19.70 (2.539)	19.38 (2.978)	19.71 (2.228)	1.665	.097		-1.193	.235	
<i>Stepwise Processing</i>	35.51 (5.937)	33.24 (5.852)	34.34 (6.481)	33.28 (6.405)	5.614	.000	0.342	1.586	.116	
Regulation strategies										
<i>Self-Regulation</i>	40.51 (4.523)	39.44 (5.561)	40.28 (5.615)	39.44 (5.703)	3.829	.000	0.230	1.651	.102	
<i>external regulation</i>	37.22 (4.978)	35.28 (4.723)	37.47 (4.346)	36.19 (4.414)	5.919	.000	0.352	2.700	.008	0.260
<i>Lack of regulation</i>	12.47 (3.675)	11.90 (3.697)	11.87 (3.655)	12.11 (3.444)	2.237	.026	0.134	-.622	.535	
Learning orientations										
<i>Vocation-directed</i>	21.16 (2.967)	20.55 (3.378)	21.18 (2.929)	21.41 (2.824)	2.866	.004	0.171	-.784	.435	
<i>Ambivalent</i>	10.90 (3.775)	11.05 (3.464)	10.36 (3.205)	10.49 (3.543)	-.599	.550		-.333	.740	
<i>Self-test interested</i>	15.90 (4.446)	14.15 (3.982)	15.78 (4.202)	14.28 (3.647)	6.536	.000	0.491	3.609	.000	0.352
<i>Certificate-directed</i>	16.68 (4.104)	14.65 (3.679)	17.15 (3.798)	16.05 (3.705)	7.599	.002	0.451	3.174	.002	0.304
<i>Personally Interested</i>	13.51 (3.184)	13.43 (3.017)	13.23 (3.053)	13.29 (2.517)	.382	.861		-.176	.861	
Information skills										
<i>applying Information</i>	16.16 (2.249)	16.71 (2.238)	15.78 (2.337)	16.50 (2.018)	-3.330	.001	0.196	-2.628	.010	0.249
<i>evaluating Information</i>	15.94 (2.275)	16.10 (2.375)	15.31 (2.653)	16.07 (2.299)	-.933	.352		-3.140	.002	0.302
<i>Ethical use of Information</i>	14.83 (2.877)	15.36 (2.874)	15.03 (2.747)	16.01 (2.591)	-2.446	.015	0.414	-3.761	.000	0.360
<i>Accessing Information</i>	15.74 (2.354)	16.34 (2.400)	15.35 (2.612)	16.19 (2.339)	-3.490	.001	0.206	-3.117	.002	0.295
<i>Managing information</i>	15.31 (2.784)	15.48 (2.717)	15.30 (2.738)	15.83 (2.405)	-.994	.321		-1.989	.049	0.187

Appendix 'C'

Changes in mean scores for learning orientations, learning strategies & approaches to learning by age between time 1 and time 2

	20-23		24-33		20-23			24-33		
	Time 1	Time 2	Time 1	Time 2	t	p	d	t	p	d
Processing strategies										
<i>Deep Processing</i>	38.72 (5.425)	38.40 (5.584)	37.77 (5.292)	38.79 (6.332)	.949	.344		-1.250	.216	
<i>Concrete</i>	19.76 (2.801)	19.59 (2.493)	20.05 (2.297)	20.03 (2.714)	1.004	.316		.038	.970	
<i>Stepwise Processing</i>	35.34 (6.142)	33.06 (5.891)	34.20 (5.845)	34.02 (6.748)	6.174	.000	0.348	.190	.850	
Regulation strategies										
<i>Self-Regulation</i>	40.53 (5.014)	39.50 (5.592)	39.94 (3.655)	39.21 (5.418)	3.822	.000	0.209	1.316	.194	
<i>External regulation</i>	37.32 (4.701)	35.45 (4.543)	36.98 (5.524)	36.09 (5.318)	6.615	.000	0.360	1.009	.318	
<i>Lack of regulation</i>	12.27 (3.698)	12.02 (3.739)	12.47 (3.614)	11.86 (3.739)	1.057	.291		1.219	.228	
Learning orientations										
<i>Vocation-Directed</i>	21.24 (2.944)	20.82 (3.234)	20.66 (2.986)	20.32 (3.614)	2.195	.029	0.120	.741	.462	
<i>Ambivalent</i>	10.77 (3.604)	10.92 (3.508)	10.68 (3.866)	10.84 (3.452)	-0.656	.512		-0.310	.757	
<i>Self-test interested</i>	16.05 (4.307)	14.16 (3.872)	14.74 (4.654)	14.09 (4.059)	7.679	.000	0.425	1.159	.252	
<i>Certificate-directed</i>	17.06 (3.934)	15.05 (3.719)	15.32 (4.239)	15.04 (3.894)	8.508	.000	0.463	.566	.574	
<i>Personally Interested</i>	13.62 (3.152)	13.36 (2.807)	12.44 (3.002)	13.53 (3.298)	1.336	.182		-2.351	.022	0.306
Information skills										
<i>Applying Inform.</i>	16.09 (2.308)	16.65 (2.151)	15.95 (2.099)	16.67 (2.294)	-3.768	.000	0.204	-1.756	.085	
<i>Evaluating Inform.</i>	15.82 (2.453)	16.12 (2.328)	15.47 (2.071)	15.95 (2.524)	-1.941	.053		-1.395	.169	
<i>Ethical use of Inform.</i>	14.95 (2.807)	15.53 (2.826)	14.48 (3.016)	15.59 (2.740)	-3.077	.002	0.167	-2.456	.017	0.322
<i>Accessing Inform.</i>	15.66 (2.502)	16.28 (2.424)	15.46 (1.981)	16.43 (2.139)	-3.889	.000	0.211	-2.637	.011	0.352
<i>Managing inform.</i>	15.35 (2.805)	15.55 (2.599)	15.12 (2.541)	15.69 (2.867)	-1.255	.210		-1.733	.088	

Year 2 age differences in learning

Sub-scale	Age group		Independent sample test			
	20-23 (n=355)	24-33 (n=59)	t	df	p	Cohen's D
	M (SD)	M (SD)				
Processing strategies						
Deep processing	38.45 (5.560)	38.69 (6.322)	-0.302	399	0.763	0.04
Stepwise processing	33.01 (5.848)	34.00 (6.688)	-1.152	388	0.250	0.17
Concrete processing	19.59 (2.505)	20.03 (2.714)	-1.232	406	0.218	0.17
Regulation strategies						
Self-regulation	39.52 (5.563)	39.21 (5.418)	.390	70.312	0.698	0.06
External regulation	35.52 (4.528)	36.13 (5.274)	-.903	398	0.367	0.13
Lack of regulation	12.01 (3.631)	11.86 (3.707)	.271	78.681	0.787	0.04
Learning orientations						
Personally interested	13.34 (2.784)	13.53 (3.298)	-0.459	398	0.647	0.07
Certificate-directed	15.08 (3.704)	15.14 (3.864)	-0.109	405	0.913	0.02
Self-test directed	14.18 (3.822)	14.20 (4.025)	-0.029	390	0.977	0.01
Vocation-directed	20.84 (3.210)	20.41 (3.601)	0.938	404	0.349	0.13
Ambivalent	10.89 (3.549)	10.76 (3.420)	0.265	388	0.265	0.04
Information skills						
Applying information	16.67 (2.156)	16.71 (2.294)	-.125	74.904	0.901	0.02
Evaluating information	16.13 (2.326)	16.00 (2.534)	.377	74.144	0.707	0.06
Ethical use of information	15.59 (2.836)	15.59 (2.740)	.010	79.019	0.992	0.00
Accessing information	16.28 (2.423)	16.41 (2.103)	-.453	84.574	0.651	0.05
Managing information	15.54 (2.618)	15.69 (2.86)	-.367	73.864	0.714	0.06

Year 2 Gender differences in lifelong learning skills

Sub-scale	Gender		Independent sample test			
	Male (n=355)	Female (n=59)	t	df	p	Cohen's D
	M (SD)	M (SD)				
Processing strategies						
Deep processing	38.80 (5.607)	37.79 (5.755)	1.587	197.129	0.114	0.17
Stepwise processing	33.20 (5.837)	33.18 (6.279)	.031	176.831	0.976	0.00
Concrete processing	19.70 (2.549)	19.70 (2.246)	-.013	231.475	0.989	0.00
Regulation strategies						
Self-regulation	39.51 (5.553)	39.44 (5.703)	.111	194.223	0.912	0.13
External regulation	35.35 (4.738)	36.21 (4.314)	-1.758	226.963	0.080	0.19
Lack of regulation	11.89 (3.701)	12.11 (3.414)	-.562	224.812	0.575	0.61
Learning Orientations						
Personally interested	13.39 (2.994)	13.32 (2.501)	.215	399	0.830	0.02
Certificate-directed	14.68 (3.670)	16.11 (3.636)	-3.583	210.229	0.000	0.39
Self-test directed	14.18 (3.936)	14.35 (3.580)	-.408	216.992	0.684	0.04
Vocational-directed	20.58 (3.355)	21.41 (2.813)	-2.548	250.463	0.011	0.26
Ambivalent	10.99 (3.504)	10.52 (3.560)	1.176	185.394	0.241	0.14
Information literacy skills						
Applying information	16.72 (2.240)	16.51 (2.009)	.926	222.809	0.355	0.10
Evaluating information	16.11 (2.369)	16.09 (2.294)	.064	204.812	0.949	0.01
Ethical use of inform	15.41 (2.887)	16.01 (2.581)	-1.906	400	0.057	0.21
Accessing information	16.32 (2.389)	16.16 (2.337)	.639	210.993	0.523	0.07
Managing inform.	15.46 (2.736)	15.83 (2.394)	-1.358	234.639	0.176	0.14

University of Glasgow
Questionnaire for first-year students

Dear student,

The purpose of this questionnaire is to understand your motivation for learning and how you generally go about learning. You are requested to indicate the extent to which each statement in this questionnaire applies to you. The information you provide will contribute to the study on the students' development of capacities for self-direction in learning and ability for continuous learning, and will not be used for any other purposes than research. The findings of the study may influence the University teaching and learning policies.

It should not take you more than 40 minutes of your time to complete this questionnaire. All you need is to read each statement carefully and indicate the extent to which it applies to you personally. There is no wrong or correct answer, but you need to answer the questions in a truthful way. Please mark **only one response** besides each statement that indicates whether you agree or disagree with that statement.

Mark **only one** response like this: "•" Not like this: ⊗ ∅

- 1** *means that you Completely Disagree*
- 2** *means that you Disagree*
- 3** *means that you are Undecided or do not know*
- 4** *means that you Agree*
- 5** *means that you Completely Agree*

The questionnaire will be read with the help of a machine. Please use a black or blue ballpoint pen to complete this questionnaire. Do not use fountain, as the ink may be visible on the other side of the page. If you accidentally choose two responses for any statement or leave blank, it will be difficult to use any of your responses, so please make sure that for each statement there is a single clear response. If you make a mistake, cross the wrong response and then mark the correct response.

We would like to carry a similar survey later and undertake interviews with a small number of students from your degree programme. We would like therefore to have your email for further contacts and your registration number help us to compare the data collected at different points of time.

Taking part in the research is entirely voluntary and you can stop participating at any time you wish without giving any reason. If you choose to participate, we promise to keep your confidentiality under both, the University of Glasgow academic ethics, and the UK 1998 Data Protection Act. Your identity will not be revealed or associated with any of your responses, nor will any one apart from the Researcher and his Supervisors be allowed to see your responses. Even if your University will be interested in the findings or recommendations of this study, the information supplied to them will in no way identify you as an individual.

Your School (e.g. Sociology)

Your Student's Registration no.

Your email

Part A of this questionnaire is about **your experience of being at university and your future plans**. Please write the relevant information or mark a response beside each question, making sure that you give a single clear answer.

A1. What is the name of **your degree course**? _____

A2. Please list the **courses** that you are taking this semester:

A3. Where do you currently live (Please mark only one response like this: ●)

- i. In university hall of residence or other accommodation owned by the university...
- ii. Alone in private accommodation.....
- iii. In private accommodation with friends or other students.....
- iv. In private accommodation with your parents and/or other relatives.....
- v. In private accommodation with your partner and/or children.....
- vi. Other (please specify)_____

A4. What were you doing in the year before you came to university (Please mark only one response like this: ●)

- | | | | |
|---------------------------------------|-----------------------|---|-----------------------|
| i. Studying at school or college..... | <input type="radio"/> | v. Unemployed but seeking employment.. | <input type="radio"/> |
| ii. In paid full-time work..... | <input type="radio"/> | vi. Unemployed with domestic tasks..... | <input type="radio"/> |
| iii. In paid part-time work..... | <input type="radio"/> | vii. Self-employed..... | <input type="radio"/> |
| iv. Retired..... | <input type="radio"/> | viii. Other (please specify)_____ | <input type="radio"/> |

A5. Who is funding your studies? (Please mark only one response like this: ●)

- i. Government (Higher Education Students Loan Board - Please Specify Category/ Grade eg A,B, C etc)_____
- ii. Government (Scholarship).....
- iii. Private (Parents and/or other relatives).....
- iv. Private (yourself).....
- v. Employer.....
- vi. Other (Please Specify) _____

A6. Do you have any idea of **the kind of job** you are going to do after university?

- i. Yes (please specify).....
- ii. No.....

A7. Do you think of undertaking **any further study** after graduation?

- Yes (please specify reasons)... _____
- No (please specify reasons)..... _____

Please make sure you have answered each of the questions in part A before continuing with Part B.

Part B of this questionnaire is about your **learning motivation**. Please respond **truthfully on your learning motivation**, so that your answers will **accurately** describe **your actual behaviour**.

1	2	3	4	5
Completely Disagree	Disagree	Undecided or Do not Know	Agree	Completely Agree

(Please mark only one response in each statement like this: ●)	1	2	3	4	5
--	---	---	---	---	---

- B1. When I have a choice, I opt for courses that seem useful to me for my present or future profession..... O O O O O
- B2. I do these studies out of sheer interest in the topics that are dealt with. O O O O O
- B3. I want to prove to myself that I am capable of doing studies in higher education O O O O O
- B4. I doubt whether this is the right subject area for me..... O O O O O
- B5. I aim at attaining high levels of study achievements..... O O O O O
- B6. I want to show others that I am capable of successfully doing a higher education programme..... O O O O O
- B7. I have chosen this subject area, because it prepares me for the type of work I am highly interested in..... O O O O O
- B8. The main goal I pursue in my studies is to pass exams..... O O O O O
- B9. I view the choice I have made to enrol in higher education as a challenge..... O O O O O
- B10. The only aim of my studies is to enrich myself..... O O O O O
- B11. I have little confidence in my study capacities..... O O O O O
- B12. For the kind of work I would like to do, I need to have studied in higher education..... O O O O O
- B13. What I want in these studies is to earn credits for a qualification..... O O O O O
- B14. I see these studies as sheer relaxation..... O O O O O
- B15. I study above all to pass the exam. O O O O O
- B16. The main goal I pursue in my studies is to prepare myself for a profession..... O O O O O
- B17. I want to discover my own qualities, the things I am capable and incapable of... O O O O O
- B18. What I want to acquire above all through my studies is professional skill..... O O O O O
- B19. When I have a choice, I opt for courses that suit my personal interests..... O O O O O
- B20. I wonder whether these studies are worth all the effort..... O O O O O
- B21. I doubt whether this type of education is the right type of education for me..... O O O O O
- B22. I want to test myself to see whether I am capable of doing studies in higher education..... O O O O O

- B23. *I do these studies because I like to learn and to study.....*
- B24. *I am afraid these studies are too demanding for me.....*
- B25. *To me, written proof of having passed an exam represents something of value
in itself.....*

Please make sure you have answered each of the questions in part B before continuing with Part C

Part C of this questionnaire is about **your learning and studying strategies**. Please respond **truthfully**, so that your answers will **accurately** describe **your actual ways of learning and studying**.

1	2	3	4	5
Completely Disagree	Disagree	Undecided or Do not Know	Agree	Completely Agree

	1	2	3	4	5
--	---	---	---	---	---

- (Please mark **only one** response in each statement like this: ●)
- C1. If a textbook contains questions or assignments, I work them out completely as soon as I come across them while studying..... 0 0 0 0 0
- C2. I study all the subject matter in the same way..... 0 0 0 0 0
- C3. I realize that it is not clear to me what I have to remember and what I do not have to remember 0 0 0 0 0
- C4. I experience the introductions, objectives, instructions, assignments and test items given by the teacher as indispensable guidelines for my studies.... 0 0 0 0 0
- C5. I test my learning progress solely by completing the questions, tasks and exercises provided by the teacher or the textbook..... 0 0 0 0 0
- C6. I notice that I have trouble processing a large amount of subject matter..... 0 0 0 0 0
- C7. In addition to the syllabus, I study other literature related to the content of the course..... 0 0 0 0 0
- C8. I learn everything exactly as I find it in the textbooks..... 0 0 0 0 0
- C9. I notice that it is difficult for me to determine whether I have mastered the subject matter sufficiently..... 0 0 0 0 0
- C10. To test my learning progress when I have studied a textbook, I try to formulate the main points in my own words..... 0 0 0 0 0
- C11. When I start reading a new chapter or article, I first think about the best way to study it..... 0 0 0 0 0
- C12. I realize that the objectives of the course are too general for me to offer any support..... 0 0 0 0 0
- C13. I do more than I am expected to do in a course..... 0 0 0 0 0
- C14. If I am able to give a good answer to the questions posed in the textbook or by the teacher, I decide that I have a good command of the subject matter... 0 0 0 0 0
- C15. When I have difficulty grasping a particular piece of subject matter, I try to analyse why it is difficult for me..... 0 0 0 0 0

- C16. *I study according to the instructions given in the study materials or provided by the teacher.....* 0 0 0 0 0
- C17. *To test my learning progress, I try to answer questions about the subject matter which I make up myself.....* 0 0 0 0 0
- C18. *I realize that I miss someone to fall back on in case of difficulties.....* 0 0 0 0 0
- C19. *I add something to the subject matter from other sources.* 0 0 0 0 0
- C21. *To test whether I have mastered the subject matter, I try to think up other examples and problems besides the ones given in the study materials or by the teacher.....* 0 0 0 0 0
- C22. *I use the instructions and the course objectives given by the teacher to know exactly what to do.....* 0 0 0 0 0
- C23. *When I am studying, I also pursue learning goals that have not been set by the teacher but by myself.....* 0 0 0 0 0
- C24. *If I do not understand a study text well, I try to find other literature about the subject concerned.....* 0 0 0 0 0
- C25. *If I am able to complete all the assignments given in the study materials or by the teacher, I decide that I have a good command of the subject matter.....* 0 0 0 0 0
- C26. *I work through a chapter in a textbook item by item and I study each part separately.....* 0 0 0 0 0
- C27. *I repeat the main parts of the subject matter until I know them by heart.....* 0 0 0 0 0
- C28. *I use what I learn from a course in my activities outside my studies.....* 0 0 0 0 0
- C29. *I try to combine the subjects that are dealt with separately in a course into one whole.....* 0 0 0 0 0
- C30. *I memorize lists of characteristics of a certain phenomenon.....* 0 0 0 0 0
- C31. *I make a list of the most important facts and learn them by heart.....* 0 0 0 0 0
- C32. *I try to discover the similarities and differences between the theories that are dealt with in a course.....* 0 0 0 0 0
- C33. *I relate specific facts to the main issue in a chapter or article.....* 0 0 0 0 0
- C34. *I try to interpret events in everyday reality with the help of the knowledge I have acquired in a course.....* 0 0 0 0 0
- C35. *I analyse the separate components of a theory step by step.....* 0 0 0 0 0

- C36. *I pay particular attention to those parts of a course that have practical utility...*
- C37. *I do not proceed to a subsequent chapter until I have mastered the current chapter in detail.....*
- C38. *I try to see the connection between the topics discussed in different chapters of a textbook.....*
- C39. *I memorize definitions as literally as possible.....*
- C40. *I compare my view of a course topic with the views of the authors of the textbook used in that course.....*
- C41. *I memorize the meaning of every concept that is unfamiliar to me.*
- C42. *I try to construct an overall picture of a course for myself.....*
- C43. *I compare the conclusions drawn in different chapters.....*
- C44. *I check whether the conclusions drawn by the authors of a textbook follow the facts on which they are based logically.....*
- C45. *I study details thoroughly.*
- C46. *I draw my own conclusions on the basis of the data that are presented in a course.*
- C47. *I analyse the successive steps in an argumentation one by one.....*
- C48. *With the help of the theories presented in a course, I devise solutions to practical problems.....*
- C49. *I try to be critical of the interpretations of experts.....*
- C50. *When I am studying a topic, I think of cases I know from my own experience that are connected to that topic.....*

Pease make sure you have answered each of the questions in part C before continuing with Part D.

Part D of this part of questionnaire is about the **ways you seek and use information**. Please respond **truthfully**, so that your answers will **accurately** describe **your actual information seeking and using behaviours**.

1	2	3	4	5
Completely Disagree	Disagree	Undecided or Do not Know	Agree	Completely Agree

(Please mark only one response in each statement like this: ●)		1	2	3	4	5
D1.	<i>I have a system that helps me organise the information I need.....</i>	0	0	0	0	0
D2.	<i>I keep accurate details of everything I read.....</i>	0	0	0	0	0
D3.	<i>I use a combination of search tools including library catalogues and web search engines.....</i>	0	0	0	0	0
D4.	<i>When I get a new idea, I work out how to explain it effectively.....</i>	0	0	0	0	0
D5.	<i>I critically evaluate each information source I use.....</i>	0	0	0	0	0
D6.	<i>When I make notes about the information I am reading, I include the author and title.....</i>	0	0	0	0	0
D7.	<i>I reference websites that I have used in my assignment.....</i>	0	0	0	0	0
D8.	<i>I evaluate information I read for criteria including accuracy and relevance.....</i>	0	0	0	0	0
D9.	<i>I develop a system to keep track of the information I find and its sources.....</i>	0	0	0	0	0
D10.	<i>I apply correct academic conventions regarding plagiarism.....</i>	0	0	0	0	0
D11.	<i>In selecting information, I evaluate the quality of the information.....</i>	0	0	0	0	0
D12.	<i>I have a system for searching for information on a subject.....</i>	0	0	0	0	0
D13.	<i>I need to keep relearning because life is constantly changing.....</i>	0	0	0	0	0
D14.	<i>I revise my research plan and strategy if I need to gather more information or data.....</i>	0	0	0	0	0
D15.	<i>I present the information in a medium that suits the audience.....</i>	0	0	0	0	0
D16.	<i>If my searching returns too much irrelevant information, I change my keywords.....</i>	0	0	0	0	0
D17.	<i>When I consider information I have found, I state the key ideas in my own words.....</i>	0	0	0	0	0
D18.	<i>I compare information as I'm reading with what I already know.....</i>	0	0	0	0	0
D19.	<i>I decide how best to find the information I require for a particular task...</i>	0	0	0	0	0
D20.	<i>I comply with rules on the use of copyright materials.....</i>	0	0	0	0	0

Please Make sure you have answered each in question in part D before continuing with last Part E.

Part E of this questionnaire is about **yourself**. Please give the information either by marking responses or putting numbers in the relevant boxes or by writing your answers in the space provided. Make sure you give a **single** clear answer for every question.

E1. Your sex: Female Male E2. Your age: years

E3. O level Secondary school you attended _____ Sec. Sch Public/ Government? (Delete one)

E4. Your highest educational qualification before joining university? (Please mark **one** response only)

- i.A level..... ii.Division (eg I,II, III etc) : _____ Name of school _____
- iii.Diploma..... iv.Please specify: _____
- v.Other) vi.(please specify _____

E5. Where were you living in the year before you came to university? (Give the name of the region and district) District/municipality _____ Region _____

E6. What is your marital status?

- i.Single
- ii.Married or living with a partner.....
- iii.Divorced or widowed.....

E7. Do you have any dependent relatives?

- Yes.....
- No.....

E8. What is the highest level of education of members of your immediate family (your parents, brothers, sisters, partner, spouse or children)? (Please include any family member currently at university).

(Please mark **only one** response like this: ● in each row)

	Primary School Education	O-level	A-level	Diploma	University	Not applicable
i. Father or male guardian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ii. Mother or female guardian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
iii. Brothers or sisters.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
iv. Partner or spouse.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. Sons or daughters.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

E9. Who is the main income earner in your family? (ie the person with the largest income in the family, whether from employment, student support, pensions, business, investment or any other source.) (Please mark **one** response only)

- i. Father or male guardian...*
- ii. Brother or sister.....*
- iii. Mother or female guardian.*
- iv. Partner or spouse.....*
- v. Yourself.....*
- vi. Other (please specify) O _____*

vi. E10. Please specify the most recent job of the main income earner within the past two years (Even if he/she is currently studying full-time, retired or unemployed)_____

vii. Do you have any other comments about your experiences of higher education?

Thank you very much for your cooperation.

University of Glasgow
Interview – Student (Sd)

General Information

Date (Day/Month/year) |__| |__| |__| / |__| |__| |__| / |__| |__| |__| Code no |__| |__| |__|

School _____ Department _____

Introduction

We would like to look at some broad themes on learning and living at the university with you within the next 40 minutes or so. On all for issues, we would like you to reflect on how your attitude and views have changed since you entered the University and started this course.

1. What programme you are doing? Is it the one you registered for in Y1? What final year dissertation topic are you thinking of? Still enjoying the course as much as you did when you started?

Sub questions and prompts: Why did you choose this course? Favourite options

Is it a demanding course in terms of workload?

What difference between Y1 an y2 in terms of workload? (Types of assignments, lectures/tutorials, use of facilities such as the library, use of textbook, web resources)

What sort of training/skills are you getting here that you think will be the most important for your career?

2. Have you noticed any differences in the way lecturers are now teaching you? In the way staff and students interact in and outside classes?

How often do you see your family (you parents...) and "old friends"(from college, neighbourhood, etc) ?

Has this changed over the past couple of years (frequency of visits, nature of the relationship).

Do you feel that you are more dependent on of more independent from your parents than you were in Y1?

Overall would make a distinction between you student and you non-student life? (Do you feel you are juggling with two worlds/identities? Or do you feel you are in a process of transition? Do you think you are getting more than a qualification here?

3. What about you use of the internet between Y1 and Y2?

What differences can you tell me in terms of your experience of using internet between y1 and Y2? For what activities do you use the internet most? Can you tell me anything about the ways in which the internet can be used for learning? What

are the important issues to consider when using materials from the internet for assignments? What difficulties do you experience when accessing the internet? How do you resolve these issues?

4. How about your financial situation? Are you working part-time? (regular job? Absolute necessity? how demanding it is? Do you think it is affecting your studies in any way? How did you get it?)

Has your financial situation changed in any significant way since you started here? What does cost you the most? What other activities are you engage in currently apart from your studies either at the university or outside? What are these activities? Why/why not are you involved in these activities? Are you involved with any community or voluntary activities? Why/ why not? What about part time work? Why/ why not? How do these activities contribute to your future development? How important are they in relation to your formal studies?

5. How are you coping with exams and other types of assessment here? How important is the degree classification to you? Do you have particular targets, expectations? Do you think your grades will affect you future plans (postgrad course, job prospect...)? Tell me how you go about tackling assignments and tests?

Do you have any problems with time management when doing assignments? How do you resolve these problems? How do you balance your personal study, other learning activities and personal/family commitments? How do you assess your learning progress?

6. Do you seek support for your studies?

Where? What kind of support? What kind of support do you get from friends and family? What kind of support do you get from University lecturers and other staff? Why/ why not? Do you get any help in assessing your progress and planning of your studies? Is this support useful?

7. Have been able to develop your own plans or idea since last year? (for example, developing a project or initiating your own business)

What was it about? Can you explain a bit about it? Did this idea come into reality? Why/ why not? In which ways do you think your university degree and courses can help you develop working on you own initiative? Why/ Why not?

8. Are there any changes in the way you go about learning and studying? Tell me something about a typical day of study and what sorts of things you do inside and outside of class in relation to study.

Tell me what do you do during the lecture session? How do you go about recording information? What do you do immediately after the lecture to organise materials? Do you take notes during or after the lecture, or both? Do you read other materials (e.g. books or use the internet)? Do you incorporate them into the lecture materials? Why/ why not?

University of Glasgow
Interview Guide - Lecturers (Le)

Date (Day/Month/year) | | | / | | | / | | | Code no | | | |
 School/College _____ Department _____
 Course(s) taught _____

1. Tell me a little about the activities you will include when preparing for a typical teaching session?

Why these activities? To which activities amongst these will you give more weight? Why? Do you involve students in the planning? Why/ why not? How do you help students to assess their progress in this course? What do you do to help them manage their learning?

2. Tell me the objectives you wish to achieve when teaching this course?

Which methods of teaching do you consider to be most suitable for achieving these objectives? Why do you select those methods? What do you do when students are not engaging with the course you are teaching? How can students' interest and engagement in learning be improved?

3. What are your views on the use of information and communication technologies in this course?

Why is it (not) important? How often do you use ICT in your teaching? Why /why not? How do you support students to develop information literacy skills? What are the important issues? How can your students' information literacy skills be developed even further?

4. Does your teaching of this course encourage students to take part in other activities outside of the formal curriculum?

Can you explain more? In which ways does this course encourage students to take part in voluntary activities? Why/ why not? Does this course encourage students to think about opportunities for self-employment? Why/ why not? In which ways?

5. What approaches do you consider when preparing students' assignments and tests?

What types of tests and assessments do you use? What areas of the curriculum do you cover? Why these? What generic skills do you cover? Why these? How do different forms of assessment contribute to developing students as learners? What do you do to help students prepare for tests or assignments? Do you tell them to concentrate on specific areas? Why/ why not? Tell me what you consider when grading and providing feedback to students? Why is that?

6. What other aspects of learning does this course seek to promote in students?

How does the course encourage students' to use their own initiative? What about self-direction in learning? How does your teaching support students to be self-directed or to promote these attributes in students? How can the students' own initiative be maximized?

University of Glasgow
Interview Guide – University official C (Lb)

General Information

Date (Day/Month/year) |_|_| / |_|_| / |_|_|

1. Would you tell me the role of the library in students' teaching and learning?

Tell me the various sources of information available in the library for students? How are these resources accessed by students? Are these services equally available for off-campus and on-campus students? How/ why not?

2. What kind of support does the library offer to students in accessing information resources?

Can you describe the search tools available in the library? What support does the library offer for students' use of resources such as databases, search engines, book indexes etc.? How does the library support students in locating information relevant to their specific subject area? How can students' access to information sources be improved?

3. In which ways does the library support students to evaluate the information they access?

How/ why not? What is the role of library in assisting students to evaluate the quality of the information sources they access? How/ Why not? What are your views on improving students' abilities to evaluate the information?

4. How does the library support students to manage information resources they collect?

Can you tell me the role of the library in supporting students to take accurate details of information they need? How does the library support students to make notes of the information they access? What else needs to be done to help students manage information?

5. How does the library support students to use information responsibly in relation to the correct use of referencing and citation conventions?

How is this being done? Why/ why not? Does the library help students to state ideas in their own words? What specific conventions are applied (MLA, Harvard, etc.). Are the students provided with support to develop academic literacy? How? Please explain?

6. What role does the library play in assisting students to develop self-direction and independent learning?

Can you cite examples in which students are assisted to develop such attributes?
 How can this be improved?

Appendix 'J'

University of Glasgow
Interview Guide – University official B

Date (Day/Month/year) |_|_| / |_|_| / |_|_|

1. Could you tell me something about the graduate attributes that the University wishes to develop in students as a result of University education?

Can you tell me the extent to which the teaching processes prepare graduates towards the development of these attributes? In your view, which methods are the most appropriate for achieving those purposes? Why? How does the University promote the use of these methods?

2. Can you tell me what strategies the University uses to support students in taking control of their own learning?

Would you tell me the role of University in supporting students to assess their own learning in order to know how well they are doing? Could you provide me with examples? Are there university policies to support this process? How can the students' control of learning be improved?

3. Can you tell something about the areas in which the University is widely using information and communication technologies?

What strategy does the University use to help staff and students' develop information literacy skills? What are the critical issues related to the students' development of effective information literacy skills? How does the University ensure adequate access to ICT resources for students?

4. What kind of linkages exists between the University and the outside community?

Does the University have arrangements for students to engage in voluntary activities, community activities or part-time employment opportunities? Why /why not? How can these linkages inform what is being taught at the University? How does University teaching develop students' attributes for self-employment and entrepreneurship?

5. Could you tell me something about University guidelines on the nature of the tests and assignments given to students?

What type of tests and assignments are frequently administered? Why? What learning approaches are dominant among students when they prepare for examinations? Why? What is the influence of tests given on learning approaches? What are your views about students' development of self-direction and independent learning – does it form part of university outcomes?

Why/ why not? How does the teaching help students to develop innovation and use of their own initiative? Does the University facilitate the students' development of a sense of self direction and independent learning? If so, in what ways?

Appendix 'K'

University of Glasgow
Interview Guide - Ministerial official A

Date (Day/Month/year) |_|_| / |_|_| / |_|_|

1. Could you tell me something about the graduate attributes that the nation wishes to develop as an outcome of university education?

Can you tell me the extent to which universities are preparing graduates to develop these attributes? Can you explain more? How does the Ministry support Universities to achieve these goals? What role does the Ministry play in improving the teaching and learning environment?

2. What are the broad strategies that exist for the development of information literacy skills in society at large and for students in particular?

What role does the Ministry play in promoting the use of information and communication technologies in universities? What can be done to improve the use of ICT in learning?

3. Could you tell me something about the national priorities related to students' development of skills for independent learning?

Can you tell me the role of Ministry in improving Universities potential for helping students' development of skills which can help them to take control of their learning? What guidelines and frameworks does the university operate within? What are your views for improving students' abilities for self-direction in learning?

4. How does the Ministry ensure that the undergraduate education on offer is relevant to the needs of the individual, society and the nation at large?

What kinds of linkages exist between Universities, society, employers and graduates? How do these linkages inform what is taught in the universities? What should be done to solidify these linkages?

5. Is the student's self-direction in learning considered an element of educational outcomes?

Why/ why not? What is the role of the Ministry in improving the Universities potential to support students' development of self-directed learning? What about students' abilities for self-employment and entrepreneurship? Does the Ministry support and encourage Universities to develop graduate entrepreneurship? Why/ why not? How can this be improved?

University of Glasgow
Interview Guide – University official A

Name of the School _____

Date (Day/Month/year) |__|_| / |__|_| / |__|_|

1. What attributes does this School wish to develop in students as a result of their University education?

Why should these attributes be promoted? How does the teaching facilitate the promotion of those attributes? Which methods do you think are the most appropriate for developing these attributes in students? Why? How does this School promote the use of these methods?

2. How does the School support students to take control of their own learning?

How are the students supported to assess their own learning in order to know how well they are doing? Can you provide me with some examples? How can the students' control or ownership of their learning be improved?

3. How does the School make use of information and communication technologies?

In which areas is ICT widely used in this School? What strategies does the School use for enabling staff and students to develop information literacy skills? What are the critical issues related to the effective development of information literacy skills? How does the School ensure adequate access to ICT resources for students? How might this be improved?

4. What kinds of linkages exist between this School and the outside community?

Does the School have any arrangements whereby students can engage in voluntary activities, community activities or opportunities to gain part-time employment? Why/ why not? How does the teaching help students to develop a sense of independence or entrepreneurship?

5. Could you tell me something about the School guidelines on the nature of the tests and assignments given to students?

What are the most frequently used types of tests and assignments given to students? Why? What learning approaches do you think are most dominant among students as they prepare for tests and examinations? Why do you think this might be?

6. What are your views about students' development of self-direction or independence in learning – Does this form part of the university education outcomes?

Why/ why not? How does the teaching in this School help students to develop self-direction in learning? How might the students' development of self-direction be improved?

University of Glasgow STUDENT'S LEARNING DIARY

Code no | | |

School/College _____ Department _____

A: Teaching and learning Activities

DAY: Monday

DATE: 6th December, 2010

1. Describe the formal teaching methods you have been exposed to today e.g., lectures, tutorials.

2. Which methods of teaching did you enjoy most today and why? Of the methods used today, which ones do you think you learned most from and why?

3. How have you handled your learning tasks today? (e.g. completion of assignments, attending lectures) Did you face any problems with managing your time? How did you go about managing the different learning tasks assigned to you?

4. Did you seek any support (within university (e.g. from a lecturer) or outside (from parents, friends etc) for your study today? What kind of support was this? Was this support helpful?

5. Explain the different methods you have used to access information for your class assignments and other learning tasks today (e.g. reading books, use of the internet etc?) What are your favourite methods for accessing information and why?

6. Describe any of today's activities in which you have been able to learn independently outside of the formal classes? (e.g. reading and summarizing a book from the course outline, using the internet, discussions with classmates etc).

-
-
7. Describe your other activities today outside of study? (within or outside the university) (e.g. work, family responsibilities, volunteering, sport, leisure)
-
-

8. Are there any other things about your studies or other aspects of your day which are not covered above? (please explain)
-
-

- B:** Use this space to write down your reflections and feelings about studying and learning. (e.g. study experiences, things that motivated you, reasons for likes or dislike, your favourite teaching and learning methods and the reasons for that etc)
-
-
-
-



Department of Adult and Continuing Education

Research Project

Undergraduate students' Development of Lifelong learning Attributes in Tanzania

Researcher's name and Details

My name is Mpoki Mwaikokesya. I am undertaking a postgraduate PhD degree programme at the University of Glasgow in the UK. My address is: University of Glasgow, Faculty of Education, Department of Adult and Continuing Education, St. Andrew's Building, 11 Eldon Street, Glasgow, Scotland, UK, G3 6NH. Tel: +44 (0) 7789528384 Email: m.mwaikokesya.1@research.gla.ac.uk

Researcher's Supervisors

Prof. Mike Osborne, Department of Adult and Continuing Education, Faculty of Education, University of Glasgow. Email: m.osborne@educ.gla.ac.uk

Dr. Muir Houston, Department of Adult and Continuing Education, Faculty of Education, University of Glasgow. Email: m.houston@educ.gla.ac.uk

Invitation to participate in the research

You are being invited to take part in this study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me or my supervisors if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

The purpose of the study

This study aims at examining the individual and institutional practices that influence university students' capacity to engage and persist as learners in their lifetime in Tanzania. In recent years, a need to develop a culture of self direction in learning and ability for continuous learning has been considered to be a central aspect in most countries. Universities have in particular been identified as important places where students can be helped to promote their abilities for self direction in learning and to keep on learning. However in a Tanzanian context, less is known, about the processes through which students in Universities can develop such abilities. This study is conducted to fill this gap. The findings of this study may inform and influence university teaching and learning processes and policies.

Choice of participants

You have been chosen to take part in the research because you are either a policy maker; a member of staff; or a first year student at the University of Dar-es-Salaam. As a member of staff or a student you have been chosen because you belong to one of the following disciplines: Sociology, Civil Engineering, Physics and Accounting. Your name came up as someone who might have informed opinions or experiences to comment on this matter. As a policy Maker or Administrator you are chosen, because you hold a critical position facilitating students' teaching and learning.

Voluntary participation

Taking part in the research is entirely voluntary. If you do decide to take part you will be given this information sheet to keep and be asked to sign an accompanying consent form which ensures your anonymity in the project and that your responses will be confidential. You can also stop participating at any time you wish without giving any reason.

Decision to take Part

If you choose to take part you will be asked to complete a questionnaire and/or take part in an interview and diary keeping. You may also be asked to complete a follow-up questionnaire to be administered next year. In the questionnaire and interview you will be asked to detail information about learning activities, behaviours and environments. A small number of students from the four degree programmes will be asked to take part in keeping diaries in which they will record their usual learning activities on three occasions of one week each. The interview sessions will be tape recorded and will last for 45 minutes and questionnaire will take about 40 minutes to complete. Diaries will be kept for three weeks only.

Confidentiality

This study aims to keep all participation and response data confidential. Steps to be taken to ensure confidentiality include the removal of any identifying information such as registration numbers and email addresses from participants' responses and keep the two documents quite separate. We will also limit access to these de-identified responses ONLY to the Researcher and his Supervisors. It is worth noting however that if you choose to take part in the interviews; confidentiality and anonymity with regard to your attendance and inputs in the interviews cannot be guaranteed. Likewise anonymity with questionnaire may not be guaranteed as we may request your university matriculation number and email address because we would like to carry out a similar study later so as to be able to compare responses.

The results of the research study

The responses you provide will contribute to gaining information on how the teaching and learning processes contribute to students' development of abilities for continuous and self direction in learning. The results will form the core of the researcher's PhD thesis. It is possible that the data gathered could also form part of journal articles and conference papers; however you will not be identified in any future publications. If you wish to obtain a copy of any publication, email the researcher and I will notify you on how to obtain a copy.

The organisation and funding the research

The research is part of the general fulfilment for the award of a postgraduate degree at the University of Glasgow. The University of Dar es Salaam, in Tanzania is facilitating the funding for this study.

Ethical Review of the study

The project has been reviewed by the University of Glasgow, Faculty of Education Ethics Committee.

Contacts for Further Information

Please feel free to contact the university's ethics officer and Researcher's supervisors if you would like to raise any issues regarding the conduct of the research. These can be contacted as follows:

a) *Research supervisors*

Prof. Mike Osborne, Department of Adult and Continuing Education, Faculty of Education, University of Glasgow. St. Andrew's Building, 11 Eldon Street, Glasgow, Scotland, UK, G3 6NH.

Tel: +44 (0) 141 330 3414, Email: m.osborne@educ.gla.ac.uk.

Dr. Muir Houston, Department of Adult and Continuing Education, Faculty of Education, University of Glasgow. St. Andrew's Building, 11 Eldon Street, Glasgow, Scotland, UK, G3 6NH.

Tel: +44 (0) 141 330 4699, Email: m.houston@educ.gla.ac.uk

b) *Faculty of Education Ethics Officer*

Dr Georgina Wardle, The Faculty of Education Ethics Officer, St. Andrew's Building, 11 Eldon Street, Glasgow, Scotland, UK, G3 6NH. Tel: +44 (0) 1413303426, Email: g.wardle@educ.gla.ac.uk.

Thank you very much for reading this and taking part in this study

Email reminder to students

Dear all,

Just a quick reminder, my name is Mpoki Mwaikokesya. I am undertaking a postgraduate PhD degree programme at the University of Glasgow in the UK . My address is: University of Glasgow , Faculty of Education, Department of Adult and Continuing Education, St. Andrew's Building, 11 Eldon Street , Glasgow , Scotland , UK , G3 6NH. Tel: [+44 \(0\) 7423229051](tel:+44107423229051) Email: m.mwaikokesya.1@research.gla.ac.uk

Some months back (December/January, 2010) I *requested you to* participate in filling in a questionnaire in my PhD research titled: Undergraduate students Development of lifelong learning attributes in Tanzania, and some of you took part in an interview and diary keeping in my PhD study aimed at examining the individual and institutional practices influencing university students' capacity like yourself to engage and persist as learners in their lifetime.

Before I conclude the results obtained from the first round of my research, I need to get your response for the second time, and I am therefore requesting you to take part in the second round of this research by filling in a simple questionnaire which I will administer when I will be Tanzania between December, 2011 and January, 2012. It is very important that you take part and give your genuine feelings about learning.

If you agree to participate in the study, you will be asked to complete a simple questionnaire.

I look forward to seeing you there!

Mpoki J.D Mwaikokesya

Postgraduate Research Student
Graduate School of Education
Faculty of Education, University of Glasgow
United Kingdom

Course outline used in 'Course A'

Objectives:

To introduce numerical analysis methods and principles in order to provide background knowledge needed in developing or applying computer aided structural design programs.

Delivery format:

2 hours lecture on Tuesday (1800 – 2000Hrs, room A104)

1 hour tutorials per week on Monday (1200 – 1300Hrs, room A218)

(Total 45

hours)

Learning outcomes:

1. Background knowledge of the finite element and the finite differences methods.
2. Skills to develop finite element models of trusses, beams, walls and plates.
3. Skills to analyse plates and beams using the finite differences method.

Prerequisites:

SD 221: Theory of Statically Determinate Structures

SD 321: Theory of Statically Indeterminate Structures

SD 322: Matrix and Plastic Theory in Analysis of Structures

References:

1. Dawe, D. J., Matrix and finite element displacement analysis of structures, Oxford University Press, 1984.
2. O. C. Zienkiewiecs, et al., The finite element method, McGrawhill Book Company, 2000.

Course Contents:

The finite differences method: Differential equations for plane stress, beam bending, plate bending and torsion problems. Forward difference, backward difference, central difference, averaged first central difference, central difference operator, differential coefficients, truncation errors, uneven mesh intervals.

Solution of beam bending and plate bending problems using the finite differences method: Laplace and biharmonic operators. Finite difference equations and representation of boundary conditions by finite difference equations, solution of the finite difference equations.

Finite element method:

Theory and application of the finite element method: The finite element method, element characteristic stiffness matrices; element assembly and solution for unknowns; strain displacement relationships; theory of stress and deformation; stress-strain-temperature relations.

The stiffness method and the plane truss: Structure stiffness equations, properties of [K] the structural stiffness matrix, element stiffness equations, assembly of elements, plane truss example.

Displacement based elements for structural mechanics: Formulae for element matrices k_{kj} and element load vectors [K] overview of element stiffness matrices, consistent element nodal loads, equilibrium and compatibility in the solution, convergence requirements, the patch test, stress calculations.

The isoparametric formulation: An isoparametric bar element, plane bilinear isoparametric element, summary of Gauss quadrature, some computer subroutines for bilinear isoparametric elements.

Coordinate transformation: Transformation of vectors, stress, strain and material properties. transformation of stiffness matrices.

Tests of Normality for MANOVA

	Discipline	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Concrete Processing	Engineering	.102	156	.000	.975	156	.007
	Science	.158	56	.001	.932	56	.004
	Sociology	.137	82	.001	.962	82	.015
	Business	.157	92	.000	.898	92	.000
Deep Processing	Engineering	.098	156	.001	.969	156	.001
	Science	.081	56	.200 [*]	.984	56	.646
	Sociology	.114	82	.011	.961	82	.014
	Business	.116	92	.004	.940	92	.000
Step wise Processing	Engineering	.062	156	.200 [*]	.985	156	.081
	Science	.106	56	.183	.974	56	.253
	Sociology	.068	82	.200 [*]	.986	82	.497
	Business	.081	92	.184	.987	92	.524
External regulation	Engineering	.074	166	.029	.993	166	.580
	Science	.096	56	.200 [*]	.982	56	.549
	Sociology	.074	88	.200 [*]	.991	88	.808
	Business	.066	95	.200 [*]	.984	95	.302
Self-regulation	Engineering	.112	164	.000	.958	164	.000
	Science	.121	53	.049	.964	53	.106
	Sociology	.106	84	.020	.947	84	.002
	Business	.099	95	.023	.980	95	.169
Lack of regulation	Engineering	.109	162	.000	.973	162	.003
	Science	.106	56	.182	.956	56	.041
	Sociology	.123	88	.002	.972	88	.050
	Business	.106	97	.009	.981	97	.174
Vocation-Directed	Engineering	.206	166	.000	.886	166	.000
	Science	.159	57	.001	.882	57	.000
	Sociology	.165	90	.000	.913	90	.000
	Business	.148	99	.000	.953	99	.001
Ambivalent	Engineering	.085	164	.006	.967	164	.001
	Science	.116	55	.061	.962	55	.083
	Sociology	.118	84	.006	.955	84	.005
	Business	.117	93	.003	.973	93	.055
Self-test interested	Engineering	.077	161	.020	.990	161	.322
	Science	.122	54	.045	.979	54	.472
	Sociology	.091	86	.078	.985	86	.451

Certificate-directed	Business	.086	97	.073	.983	97	.246
	Engineering	.070	168	.041	.989	168	.198
	Science	.116	55	.062	.980	55	.501
	Sociology	.082	90	.186	.978	90	.136
Personally interested	Business	.085	100	.075	.985	100	.322
	Engineering	.110	164	.000	.982	164	.029
	Science	.117	56	.055	.957	56	.046
	Sociology	.151	88	.000	.964	88	.014
Applying information	Business	.120	97	.002	.975	97	.061
	Engineering	.161	165	.000	.934	165	.000
	Science	.156	57	.001	.926	57	.002
	Sociology	.132	91	.000	.944	91	.001
Evaluating information	Business	.129	96	.000	.955	96	.002
	Engineering	.168	166	.000	.954	166	.000
	Science	.138	57	.009	.940	57	.007
	Sociology	.152	86	.000	.934	86	.000
Ethical use of Information	Business	.170	98	.000	.957	98	.003
	Engineering	.118	166	.000	.964	166	.000
	Science	.127	56	.025	.949	56	.019
	Sociology	.113	89	.007	.943	89	.001
Accessing Information	Business	.099	96	.021	.973	96	.047
	Engineering	.161	165	.000	.930	165	.000
	Science	.124	57	.028	.953	57	.028
	Sociology	.145	91	.000	.931	91	.000
Managing information	Business	.153	96	.000	.916	96	.000
	Engineering	.115	166	.000	.969	166	.001
	Science	.153	56	.002	.951	56	.024
	Sociology	.189	91	.000	.910	91	.000
	Business	.127	96	.001	.968	96	.018

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction