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University of Glasgow

The Role of Higher Education in Supporting Academically Gifted Students as Identified by Gifted Schools in Kazakhstan

By

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Abstract

Despite the extensive body of research dedicated to gifted education in primary and secondary schooling, the lived experiences and support structures for academically gifted students (AGS) in higher education remain significantly under-researched. This qualitative case study explored the institutional, academic, and leadership support mechanisms provided to AGS at a prominent university in Kazakhstan. The study was framed by the central research question: 'How does a higher education institution support academically gifted students?' To enable a comprehensive, multi-perspective understanding, data were gathered through focus group discussions with 13 AGS and semi-structured interviews with five university faculty members and three executive board members. This was supplemented by a rigorous document analysis of 16 internal university policies. Data were analysed using thematic analysis, which revealed a pressing need for formalised institutional policies that explicitly recognise and define giftedness within the university context. A significant finding was the evolution of faculty roles. The university teachers' professional identities appear to have transitioned from traditional pedagogical instruction toward a more holistic model of mentorship and emotional support. However, the research also identified critical barriers to student growth, including financial pressures, academic perfectionism, and the weight of heightened societal expectations, all of which adversely impact AGS wellbeing. Conversely, the university's co-curricular and extracurricular programmes emerged as vital, transformative platforms for cultivating essential leadership development and skills. While the results suggest that elements of a holistic support framework are present, the study underscores the necessity for specialised professional development for teacher and a more integrated policy approach. This research contributes a multi-stakeholder perspective (academically gifted students, university teaching staff, executive board members) to the field, offering insights into how universities can better sustain the academic and leadership potential of AGS in adult learning environments.

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Abbreviations

Abbreviation	Meaning
ACCEL	Active-Concerned Citizenship and Ethical Leadership
AEO	Autonomous Educational Organisation
AGS	Academically Gifted Student
AI	Artificial Intelligence
ASL	Additional Support for Learning
ASN	Additional Support Needs
ATSP	Academic Teaching Staff Participant
BIL	Bilim Innovation Lyceum
BPM	Business Project Management
CIE	Cambridge International Examination
DMGT	Differentiated Model of Gifted and Talent
EBMP	Executive Board Member Participant
ECEC	Early Childhood Educational Center
FG	Focus Group
GPA	Grade Point Average
HE	Higher Education
HEI	Higher Education Institution
IB	International Baccalaureate
IELTS	International English Language Testing System
IQ	Intelligence Quotient
I-SWEEEP	International Sustainable World (Energy, Engineering, and Environment) Project
IT	Information Technologies
JSC	Joint Stock Company
KIMEP	Kazakhstan Institute of Management, Economics and Forecasting
KTL	Kazakh Turkish Lyceum
MoE	Ministry of Education
MoES	Ministry of Education and Science
MOOC	Massive Open Online Course
MSHE	Ministry of Science and Higher Education
NCHC	National Collegiate Honors Council

NIS	Nazarbayev Intellectual School
NU	Nazarbayev University
OECD	Organisation for Economic Co-operation and Development
PBL	Project Based Learning
PGT	Programme for Gifted and Talented
PISA	Programme for International Student Assessment
PMAC	Psychologically Making A Change
PMPC	Psychological Medical and Pedagogical Commissions
REH	Regional Educational Hub
RQ	Research Question
SAT	Scholastic Aptitude Test
STEM	Science, Technology, Engineering and Mathematics
TILT	Transparency in Learning and Teaching
TOEFL	Test of English as a Foreign Language
TPD	Teacher Professional Development
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNT	Unified National Test
USSR	Union of Soviet Socialist Republics
VLE	Virtual Learning Center
ППС	Профессорско-преподавательский состав

Chapter 1 INTRODUCTION

1.1 Introduction

Academically gifted students (AGS) often enter university with a history of exceptional achievement, high expectations, and carefully cultivated academic identities; yet, upon transitioning into higher education, their distinctive needs (e.g. socio-emotional, educational) become invisible within standardised systems seemingly designed for the "average" learner. While these needs are not necessarily fully met during schooling, prior research suggests that they are more likely to be recognised or explicitly addressed in earlier educational contexts through differentiation, enrichment, or specialised programmes (Tomlinson, 2015; Reis, Renzulli and Renzulli, 2021; Matthews and Kitchen, 2007). The literature (see for example, Nannings et al., 2025) commonly describes the needs of academically gifted students (AGS) as falling into two main areas: socio-emotional and educational. Socio-emotional needs include factors such as "self-esteem, self-regulation, wellbeing, and self-efficacy", while educational needs relate to "self-regulated learning, specific instructional strategies and meaningful academic interactions" (Nannings et al., 2025, p. 3). Making this distinction helps to understand which aspects of AGS' experiences may be addressed or neglected during the transition to university. Despite their recognised capabilities, little is known about how these AGS experience this critical transition from school to university or the challenges they encounter as they navigate university life. Current literature indicates a notable scarcity of research that explicitly examines AGS in higher education contexts (Mendaglio, 2012; Almukhambetova and Hernández-Torrano, 2020b; Muijsenberg et al., 2021; Nannings et al., 2025). As early as 1997, Robinson described gifted education in higher education as "surprisingly uncharted territory" (p. 234), calling for further scholarly attention to this overlooked area. Responding to this gap, the present study explores the higher education experiences of AGS within one higher education institution in Kazakhstan.

I am interested in this area because I studied as a pupil in a highly selective school that was labelled for "gifted boys". In 2003, when I took the admissions test, over 1500 applicants were registered, with only around 100 students passing to the second round of selection, which included five-day living in a dormitory and attending classes on mathematics, logic, and languages. The assessment also included observations from teachers and how students behaved in extracurricular activities, as well as informal individual interviews with

students. As a result of the selection process, from the initial 100 students around 70 were admitted. It functioned as a single-sex boarding school in Shymkent city, Kazakhstan. This school was a part of network of schools called as Kazakh Turkish Lyceums (KTL) and functioned in different major cities all over the country. More details about this network of schools will be discussed in section 2.5.3 Bilim Innovation Lyceums in Chapter Two. Having completed my higher education, I started my career as a teacher in a KTL school located in Kentau city and I worked there for three years teaching English as a foreign language, as well as taking a role of homeroom teacher. The homeroom teacher's role is a critical intermediary in daily school operations, integrating academic instruction, moral education, home-school coordination, and administrative compliance along with addressing students' socio-emotional and educational needs (Zhou, 2025; Sapir and Ravit Mizrahi-Shtelman, 2024). Later I shifted from working in secondary education to higher education, taking numerous positions at a university. During my teaching time at the university, I taught several courses including the Inclusive Education course for junior and senior year undergraduate students studying in teaching qualification programmes. The inclusive education course covered various topics including special educational needs and gifted education. This moment sparked further interest in studying AGS and gifted schools, as it aligned with my personal background. At the university I had a variety of students, coming from diverse backgrounds. Some of them stood out from the others with a proficient use of English language, as well as having a mature level of soft skills, such as communication, active listening, autonomy, and collaborative work. This could be observed by how these particular students approached completing the tasks and assignments given during the course. Soon I learned that many of those high performing students in my class were graduates of Nazarbayev Intellectual Schools (NIS) and Bilim Innovation Lyceums (BIL) *(formerly known as KTL)*. A study by Kemelbayev and Kurmanov (2024), also suggest that AGS' academic performance at the university is superior compared to their peers from mainstream public schools. Both school networks are highly selective and defined as being for gifted students. While teaching at the university, I witnessed that students coming from gifted schools typically outperformed those who were from comprehensive schools. This was particularly evident when all students were assigned into groups to complete tasks and prepare presentations for the seminar classes. NIS graduates were more engaged in classroom discussions through utilising critical thinking, asking thought provoking questions and presenting their thoughts with confidence. Additionally, they were more organised, their presentations were well structured and crafted in terms of using key elements and visuals, and their confident use

of English in delivering a speech in front of their peers was exceptional. It was evident that these students had been through a robust training, showing their mastered soft skills through practice, supposedly from school, which enabled them to appear more academically prepared and advanced compared to other students. This made me wonder whether the academic challenges provided at university were enough for these AGS. Further, I wondered what actions were being taken in higher education institutions to meet the needs of AGS. From my observations, the AGS students coming from specific gifted schools (e.g. NIS, BIL) with mainly homogeneous learning environments (the academic levels are more or less similar to one another) seemed to have had a lot of opportunities that positively contributed to maintaining academic attainment at school. However, when AGS enter a university to pursue a degree, this transition places them within increasingly heterogeneous learning environments, which ideally should function as microcosms of society and respond to the diverse academic profiles present within them (Dewey, 1916). As Tomlinson (2015) argues, viable classrooms are characterised by heterogeneity, dynamic and meaningful curriculum, and responsiveness to the full spectrum of learners, with the ultimate goal of ensuring equitable access to high-quality learning experiences for all students. Within this framework, higher education classrooms should not only accommodate diversity but actively recognise and respond to differing levels of readiness, interest, and ability. If the university learning environment does not recognise and build on the abilities of AGS, the potential of this group may be at risk or even lost to society. At the same time, students coming from comprehensive schools may also possess significant potential that remains unrealised due to limited prior opportunities, suggesting that giftedness itself can be shaped and nurtured through access to appropriately challenging and supportive educational conditions. I will discuss gifted education in Kazakhstan in more detail in section 2.5 of Chapter Two.

Almukhambetova and Hernández-Torrano's (2020a) recent study in Kazakhstan on gifted students' adjustment in university which took place in two highly selective universities found that "gifted schools contributed to developing a feeling of high academic competence and efficacy by providing students with an optimised challenging learning environment characterised by a demanding curriculum, high academic standards, and the expectation that they participate in academic Olympiads" (p.126). On the other hand, it also suggested that some students from the same group showed academic underperformance due to the environment of peers with equal or even higher ability, resulting in them doubting their self-esteem. A further contributing factor identified by Almukhambetova and Hernández-Torrano (2020a) was the lack of adequate institutional

support to assist students in accepting and adjusting to the new university environment. These findings suggest that while AGS may continue to perform adequately in higher education, their full academic potential could be better realised when universities provide suitably challenging curricula alongside targeted support structures. According to Tomlinson's (2015) conceptualisation of responsive and equitable classrooms, this requires intentional differentiation and recognition of student diversity in ability and readiness. To achieve such responsiveness, however, the effective transfer and utilisation of student background information across institutional contexts presents a significant challenge, particularly in relation to pedagogical decision-making and principles of equity.

My experiences within the university highlight a notable absence of formal mechanisms for faculty to receive comprehensive information regarding students from specific educational backgrounds, such as gifted schools (AGS students). Without specific guidance on differentiating instruction, for instance, providing deeper knowledge or creating more challenging learning environments, faculty may miss opportunities to cater effectively for diverse student needs. While the provision of such background information could potentially optimise classroom management and lesson preparation, it simultaneously raises significant ethical concerns regarding potential teacher bias and the equitable treatment of all students. Despite my personal observations indicating that AGS often demonstrate distinctive learning behaviours and may experience higher education differently from their peers, these insights remain anecdotal and context specific. There is currently a lack of systematic research examining how AGS experience their transition into higher education, how universities respond to their specific learning needs, and whether institutional practices adequately support or challenge this group (See for example, Mendaglio, 2012; Almukhambetova and Hernández-Torrano, 2020b; Muijsenberg et al., 2021; Nannings et al., 2025). While some evidence suggests that AGS may both excel and struggle within university environments (Almukhambetova and Hernández-Torrano, 2020a), there is limited empirical understanding of how their academic, social, and emotional experiences unfold in this context, particularly within Kazakhstan. Therefore, this study seeks to explore the higher education experiences of AGS within one university in Kazakhstan, with the aim of understanding the challenges they encounter, the support mechanisms available to them, and how these shape their academic engagement and development.

1.2 The Research Problem

Existing research on gifted and talented education has predominantly focused on school-level contexts within the fields of gifted education, with considerable attention given to identification, instructional strategies, and support mechanisms for gifted learners in primary and secondary education. However, the experiences and needs of academically gifted students (AGS) within higher education settings remain significantly underexplored. Numerous scholars (See for example, Mendaglio, 2012; Almukhambetova and Hernández-Torrano, 2020b; Muijsenberg et al., 2021; Nannings et al., 2025) have highlighted this imbalance, pointing to a critical gap in understanding how giftedness is recognised, supported, and nurtured at the university level. In Kazakhstan, the implementation of inclusive education in both schools and universities has largely concentrated on providing access and support for students with disabilities, while a broader understanding of inclusivity, encompassing diverse learner profiles, including gifted students, remains insufficiently addressed. As a result, academically gifted students are often overlooked in institutional policies and practices, particularly in terms of tailored pedagogical approaches, structured identification mechanisms, and specialised support services. Furthermore, studies (see for example, Uysal, 2025; Townend, Jolly and Chew, 2024) indicate that many teachers lack adequate training and pedagogical competence in addressing the distinct learning needs of gifted students, which may lead to ineffective instructional practices and hinder the optimal development of these learners. The limited understanding of how inclusive practices accommodate academically gifted students, coupled with the absence of systematic support frameworks, may contribute to underachievement, reduced leadership development opportunities, and diminished academic engagement among gifted university students. This situation underscores the need for an in-depth investigation into the lived experiences of academically gifted students in higher education, particularly in relation to teaching and learning processes and the development of their leadership capabilities. Therefore, this study seeks to explore the higher education experiences of academically gifted students in Kazakhstan, with specific emphasis on their perceptions of teaching and learning practices and opportunities for leadership skills development, in order to inform more inclusive, responsive, and effective institutional support systems. In the following section 1.3, I introduce the Research Questions that frame my study and the reasons for selected Research Questions.

1.3 Research Questions

The goal of my study is to explore academically gifted students' higher education experiences. The overarching aim of the research pertains to the investigation of the impact of higher education institution's (HEI) support services on the development of academically gifted students (AGS) within one Kazakhstani University context. To attain this aim, the investigation sought to examine the perspectives of academically gifted students, faculty staff, and executive board members regarding the existing support services, while also exploring potential avenues for enhancement. More specifically, I wanted to understand (a) how AGS are supported in their learning, (b) how their leadership skills are developed through curriculum, and (c) what other opportunities are accessible in supporting the development of leadership skills of AGS. Therefore, the following three Research Questions guided the study:

1. How does HEI support academically gifted students through pedagogical interventions?

2. How does HEI integrate leadership development among academically gifted students through their academic curriculum?

3. How do out-of-class opportunities support the leadership skills development of academically gifted students in HEI?

Initially, the presented RQs may appear distinct and self-contained. However, they may have a significant degree of interdependence when viewed through a holistic lens, particularly in the context of supporting AGS within the university. Uaikhanova et al. (2022) highlight the importance of integrating the leadership skills development within the higher education. While on the surface, each of my research questions address a specific facet of AGS support, a deeper analysis underscores their interconnectedness. RQ 1, which focuses on pedagogical approaches, is entangled with RQ 2, because teaching approaches can potentially play a pivotal role in fostering leadership skills, as explored in RQ 2. Furthermore, RQ 3 explores out-of-class opportunities to support the leadership skills development which is bound with RQ 2. These three areas appear to have significant impact on one another. Further studies of the potential interactions of these three areas are necessary. Therefore, in my research I sought to investigate if these interactions are applicable to academically gifted students in higher education. The pedagogical strategies

employed (RQ 1) may influence leadership skill development through curriculum-based practices (RQ 2), additionally, out-of-class opportunities may impact on further advancement of leadership skills (RQ 3). This research explored the complex and interdependent nature of efforts aimed at holistically supporting AGS within a university setting.

1.4 The Structure of the Thesis

This thesis consists of seven chapters. **Chapter One** introduces the topic and presents the background to the study, the statement of the research problem, the purpose of the research, and the research questions, thereby establishing the foundation for the investigation. **Chapter Two** outlines the context in which the research is conducted, providing an overview of education system in Kazakhstan, gifted schools and higher education environment, institutional setting, and relevant socio-educational factors influencing academically gifted students. **Chapter Three** presents a comprehensive review of the literature on the concept of giftedness and talent, including parental involvement in talent development. It further examines the literature on teaching gifted students, and the development of their leadership skills among academically gifted students. **Chapter Four** discusses the methodology employed in this study, detailing the research design, participant selection procedures, data collection methods, ethical considerations, and the limitations associated with the chosen methodological approach. **Chapters Five** and **Six** present the data and findings of the study. These chapters provide an in-depth analysis of the findings through the identification of key patterns and themes, supported by participants' narratives. The findings are interpreted and considered within the frame of existing literature, highlighting the implications for teaching practices, leadership development, and wellbeing of AGS in higher education. **Chapter Seven** concludes the thesis by summarising the key findings, drawing overall conclusions, and offering recommendations for practice and policy. It also discusses the limitations of the study and provides final remarks, including suggestions for future research.

1.5 Chapter Conclusion

This chapter has introduced the foundation and rationale for the present study. Drawing on both existing literature and the researcher's personal and professional experiences, the chapter highlighted a significant gap in empirical knowledge concerning how AGS experiences are supported in university settings. While gifted education has been extensively examined at the school level, the higher education context remains comparatively under-researched, particularly in relation to pedagogical responsiveness, and the leadership development of gifted learners. In this chapter it was highlighted that academically gifted students often transition from highly selective school environments tailored to their learning needs into heterogeneous university classrooms where their distinct needs may no longer be recognised or systematically addressed. The unexplored support mechanisms, limited faculty awareness, and ethical tensions surrounding the identification and differentiation of AGS may contribute to an environment where their academic potential may be underutilised. At the same time, the chapter acknowledged that giftedness can be influenced by environmental factors, highlighting the importance of responsive and equitable learning environments in higher education. The identification of the research problem and the three guiding research questions established a clear focus on examining how a higher education institution supports AGS through pedagogical interventions, curriculum-based leadership development, and out-of-class opportunities. These questions reflect the interconnected nature of teaching practices, leadership skill development, and institutional support structures, offering a holistic framework for investigating the experiences of AGS within one Kazakhstani university. This introductory chapter set justifying the relevance and significance of this study of AGS in a higher education context. By foregrounding the voices and experiences of academically gifted students alongside the perspectives of university teachers and executive board members, this research seeks to contribute to a more nuanced understanding of giftedness in higher education and to inform more inclusive, responsive, and effective institutional practices. The following Chapter Two provides an overview of the Kazakhstani educational context, with particular attention on gifted schooling and the higher education environment in which this study is situated.

Chapter 2 CONTEXT OF KAZAKHSTAN

2.1 Introduction

In examining the university experiences of gifted school graduates, it is essential to first contextualise the role and perception of gifted schools within Kazakhstan. Therefore, this chapter provides the contextual foundation necessary to understand the environment in which this research is situated. Because the study focuses on Kazakhstan, it is essential to outline the historical, sociocultural, and educational landscape that shapes the experiences of students and informs the decisions made throughout this research. The chapter begins by examining the legacy of the Soviet Union in shaping Kazakhstan's educational system. Although Kazakhstan inherited a highly centralised and standardised model of schooling from the Soviet era, the country has undergone significant reforms since gaining independence in 1991. In particular, Kazakhstan has increasingly sought alignment with international and Western educational standards, often using the Programme for International Student Assessment (PISA) as a benchmark. The chapter therefore discusses the relevance of PISA to Kazakhstan's reform agenda, alongside critiques that question its applicability and influence on policy. Following this broader overview, the chapter explores the development and current state of inclusive education in Kazakhstan, highlighting both the policy intentions and the challenges encountered in practice. The discussion then shifts to gifted education, which is a central component of this study. Special attention is given to two major networks of selective schools – Nazarbayev Intellectual Schools (NIS) and Bilim Innovation Lyceums (BIL) – whose graduates constitute the target population of this research. The chapter outlines the rationale behind these schools, their missions, and their roles in the broader educational system. These schools are widely regarded by society as producing students of exceptional intellectual ability, perceived as superior in both academic and practical scope. However, these perceptions are predominantly based on the schools' success in educational Olympiads (Matol.kz, 2023), with little empirical evidence to substantiate claims of overall superiority in educational quality. Although students from NIS and BIL schools demonstrate strong results in educational Olympiads compared to peers in comprehensive schools, relying solely on Olympiad outcomes as indicators of educational quality is arguable. As the selection of Olympiad participants is often limited to a small group, this calls into question the validity of using these results to generalise the quality of education provided by gifted schools. The final section of the chapter focuses on pathways to higher education, through

university entrance exam results, educational Olympiads outcomes, and the opportunities available to both general students and academically gifted students (AGS) (see section 2.7 Higher Education in Kazakhstan). This includes an examination of government schemes designed to support access to higher education within Kazakhstan and abroad. This chapter offers a comprehensive overview of schooling, gifted education, and higher education in Kazakhstan. By situating the study within this broader context, it provides the reader with necessary background to understand how gifted learners are educated prior to entering higher education and why their higher education experiences as gifted individuals are important for this study.

2.2 Education in Kazakhstan

Following its 70-year period as a constituent republic of the USSR, Kazakhstan's declaration of independence in 1991 marked a pivotal moment. The educational infrastructure, a direct product of this Soviet legacy, was fundamentally shaped by a centralised, state-controlled model. This model, characterised by its emphasis on uniform curricula and standardised instruction, continues to exert a significant influence on the current educational landscape in Kazakhstan. The enduring presence of this Soviet-era framework is evident in the continued reliance on a centralised administrative structure and a focus on specialised academic tracks, reflecting a system designed to serve the needs of a planned economy and a unified state ideology (Yakavets, 2014). The Soviet education system emphasised diligence, stability, and the pursuit of social mobility through education (Kosyakova, 2016; Roberts, 2006). Soviet ideology underscored the inherent value of labour, promoting it as a pathway to economic autonomy, elevated social standing, and personal fulfilment (Kosyakova, 2016). During the Soviet times, people tend to acquire a certain skill and would work in that path until their retirement. This was due to number of factors. In the Soviet system, labour mobility was formally allowed, but effectively constrained by employer controls, enterprise-based incentives, rigid occupational boundaries, and Party monopolisation of key positions, making career progression largely dependent on political rather than individual choice (Kosyakova, 2016).

Kazakhstani education consists of pre-school, primary, basic (lower) secondary, general (senior) secondary, post-secondary, and higher education. General education programmes are free and mandatory for all citizens of the country (The Constitution of the Republic of Kazakhstan, 1995). The education system in Kazakhstan is highly centralised and regulated from the top-down, giving lower levels of administration minimal political, administrative, and budgetary authority, indicating the presence of a strict hierarchy (OECD /The World Bank, 2015). There have been numerous reforms aimed at upgrading the quality and structure of the country's school education system (Yakavets and Dzhadrina, 2014; Hartley et al., 2015). The expansion of school education from 11 to 12 years has been discussed on numerous occasions (OECD, 2015; Tastanbekova, 2018), yet the expansion in all school has been postponed several times in the last 20 years due to the insufficient government funding (OECD, 2018; AllahMorad, 2021). However, a 12-year school programme has been developed and piloted in Nazarbayev Intellectual Schools

(NIS) (Centre for Educational Programmes, 2017). I will discuss the NIS schools in more detail in section 2.5.2 of Chapter Two.

Pre-school

Kazakhstan's early childhood care and education (ECCE) system, similar to those in other Central Asian countries, is grounded in the Soviet two-stage model of pre-primary provision (Zainiddinov, Habibov and Auchynnikava, 2024). In this structure, nurseries serve primarily as childcare facilities for working parents with children aged one to three, while kindergartens offer both childcare and preschool education for children aged three to six. In the early 2000s, there was a huge deficit of preschool organisations; only around 1100 preschool organisations functioned across the country, whereas there were more than 8000 preschool organisations before the collapse of the USSR (Kiikova. 2021). In 2010, the Balapan programme was initiated with the goal of expanding the accessibility of preschool education for children, which resulted in establishment of more than 10000 early childhood education centres (ECEC) by 2020 (Kiikova. 2021). According to data from the Bureau of National Statistics of the Republic of Kazakhstan (2023), in 2021, gross enrolment of children aged 1-6 in ECEC was 98.9%. However, the OECD (2018) reported that almost 540000 children were still on a waiting list for an ECEC programme, this suggests that while progress has been made, there is still a lot of work to be done in developing preschool education in Kazakhstan.

General education (school)

According to guidelines established by the Ministry of Education and Science of the Republic of Kazakhstan (MoES, 2014), the standard academic year runs from September 1 to May 25, traditionally covering a thirty-four-week instructional period. To maintain manageable workload levels, total student contact hours, including both formal classroom instruction and academically oriented extracurricular engagements, are capped at a maximum of 39 hours per week. The core curriculum mandated by the MoES incorporates a broad foundation of required disciplines, spanning native and foreign languages (Kazakh, Russian, and an additional foreign language), humanities and social sciences (Kazakh history and geography), STEM fields (mathematics, geometry, physics, and chemistry), as well as physical education and the arts (visual arts and music) (State University, n.d.). General education programmes last eleven years and are divided into three stages that correspond to educational programme levels (OECD/The World Bank, 2015):

• Primary education (grades 1-4, ages 6/7-9/10)

• Basic secondary education (grades 5-9, ages 10/11-14/15)

• General (senior) secondary education (grades 10-11/12, ages 15/16-17/18)

Primary school begins at the age of 6-7. After four years in primary school, students move on to a five-year basic secondary education. Upon finishing their basic secondary education, students undergo final state examinations, which allows them to either continue their school for another 2 years in general (senior) secondary education or go into vocational or technical education. Vocational schools offer a range of courses encompassing diverse subjects, including agriculture, IT, business administration, and engineering. Some of these institutions may focus on nurturing students' non-academic talents in arts, dancing and music.

2.3 Relevance and Critique of PISA Standards in Shaping Kazakhstani Education

In recent years, the Programme for International Student Assessment (PISA) has gained traction as a significant measure of school education quality. Many countries, including Kazakhstan, embrace PISA as an assessment tool and seek to implement OECD recommendations based on its findings. The premise behind PISA's assertion is that, regardless of the societal context, there are certain skills and knowledge that are universally essential (Zhao, 2020). This idea aligns with Kazakhstan's efforts to elevate educational standards by adopting OECD-aligned strategies and using PISA's framework as a benchmark. However, societies have varied political, economic, cultural, and religious views, as well as different challenges requiring unique skills and knowledge rather than standardised ones. So are the school programmes designed for gifted and talented. Critics argue that PISA's approach oversimplifies diverse educational needs by promoting a one-size-fits-all standard. According to Sjøberg (2015, p.116), "one can hardly assume that the 15-year-olds in e.g. USA, Japan, Turkey, Mexico and Norway are preparing for the same challenges and that they need identical life skills and competencies."

Another major concern about PISA's approach is that it was primarily developed to assist the OECD's economically advanced member countries. The 38 OECD members do not and should not be reflecting the over 200 nations that make up the globe today (OECD, 2022; Zhao, 2020). Sjøberg further highlighted:

> The PISA framework and its test are meant for the relatively rich and modernised OECD-countries. When this instrument is used as a 'benchmark' standard in the 30+ non-OECD countries that take part in PISA, the mismatch of the PISA test with the needs of the nation and its youth may become even more obvious (Sjøberg 2015, p. 116).

On the one hand, this mismatch, in considering the OECD members' economic and educational realities as foundation for the PISA assumptions, raises concerns about the validity and relevance of PISA's recommendations for non-OECD member states such as Kazakhstan. On the other hand, as an OECD member state, Finland provides an interesting comparison, as its education system is widely celebrated for quality and equity. Finland's considerably high performance in PISA in early 2000s, has led to its recognition as a model of educational excellence (Schleicher, 2019). Although recent PISA scores indicate a gradual decline, Finland remains highly regarded due to its holistic approach to education

(NCEE, 2021). In the 2022 PISA results, Finland stands 13th in the rankings table among the 81 PISA participating countries (FactsMaps, 2023). It builds their educational philosophy on the concept of individual and societal transformation by educating and cultivating competent citizens who can use their abilities to improve society. Academic performance is not viewed as the sole goal of education; it should be supplemented with lifelong learning to foster wisdom and a moral way of life (OECD, 2023a). The Finnish model emphasises equal access to education, grounded in the belief that all children deserve the same opportunities, regardless of their background (Finn and Wright, 2015). Finland has frequently been cited as an example for countries aiming to improve their global rankings in recent years (Brown and Wishney, 2017). In terms of gifted education, Finland takes a unique, egalitarian stance, which means believing that all people are equally important and should have the same rights and opportunities in life (Tirri, 2021). Unlike many countries that label and separate gifted students, Finland does not officially recognise or create specialised programmes for gifted children through its National Board of Education. Instead, Finnish policy is based on a philosophy that all students have inherent potential, thus aiming to provide high-quality education that supports the growth of every child without special emphasis on giftedness. Finland achieves this partly by investing heavily in teacher quality; for instance, their application rate for teacher education programmes is much higher than most countries, even though the acceptance rate remains at 10% of applicants being admitted to teacher preparation programmes, ensuring that only highly capable educators are tasked with nurturing students (Maaranen, 2023). While Finland's approach to gifted education appears understated, it aligns with its overall commitment to educational equality. At the upper secondary level, there are additional pathways for specialised education with strict admission criteria, which may include grade point average requirements, aptitude tests, as well as consideration of hobbies and other related activities (Finnish National Board of Education, 2016). In contrast, Kazakhstan, influenced by PISA's recommendations and OECD standards, aspires to create equitable educational opportunities, but it faces challenges in delivering consistently high-quality education across all regions. Ultimately, while PISA serves as a valuable tool for assessing educational quality, its application across diverse educational systems raises questions about universality versus contextual relevance. Finland's approach demonstrates that high educational standards can coexist with an inclusive, egalitarian model, suggesting that a balance between quality and equity is achievable without explicitly segregating gifted students. Moreover, it may also be challenging to consistently leading the league tables, as we see the Finland's PISA results gradually

falling, though still managing to be above the OECD average. Cases with Singapore, Japan and South Korea illustrates a different educational approach such as growth mindset in students with more emphasis put on effort over their ability, placing them among the top of the league tables (e.g. PISA, TIMMS) (Chen et al., 2018; FactsMaps, 2023). Taken together, it should be noted that one country's challenges can differ from other contexts. Therefore, even though Finland's or other country's educational model may serve as a thoughtful reference, countries such as Kazakhstan, which aim to elevate educational quality, may need to consider local socio-cultural realities, acknowledge and address their local challenges and needs, to improve educational quality.

2.4 Kazakhstan's Inclusive Education: Are the Gifted Overlooked?

To examine Kazakhstan's approach to inclusive education, it is essential to highlight that, while inclusive education has been a national priority since 2010 (Kazakhstan, 2011), its focus largely remains on students with special educational needs, often excluding gifted students. Despite reports of progress, Rittmann (2019) describes progress as "slow," and there is a notable lack of clarity in what constitutes the "conditions" for inclusive education claimed to be present in 86 percent of Kazakhstani schools (Abuova, 2024). This statistic may seem impressive, but without specific information on these "conditions," it risks creating misleading perceptions of inclusivity, especially for those unfamiliar with Kazakhstan's educational system. In my personal practice at school level, the focus on inclusive education often translated to physical modifications, such as installing ramps or creating tactile pathways for students with visual impairments at schools, with very few supports regarding personnel training and a lack of applicable policies. According to Rittmann (2019), the absence of reasonable accommodations (e.g. elevators, ramps, braille, large-print textbooks, transportation) as well as societal judgment, hinders disabled students' right to higher education and limits their employment opportunities. Students with disabilities frequently study at home or attend specialised schools, as determined by Psychological, Medical, and Pedagogical Commissions (PMPCs), which assess their suitability for mainstream education or special programmes (Rittmann, 2019). This focus on students with disabilities reflects a narrow interpretation of inclusive education, one that aligns more closely with traditional perceptions of special education than with an inclusive model that encompasses diverse needs, including those of gifted students. Inclusive education in Kazakhstan is heavily associated with developmental disabilities, as noted by Ninkov (2020), which implies a need for modified educational programmes. Yet, by emphasising only disability-based accommodations, the inclusive education framework in Kazakhstan neglects other student populations, such as high-ability or gifted learners, who also have specific needs. This limited scope contrasts with the broader, more holistic views of inclusive education promoted internationally (for example, Scotland, Australia, New Zealand), which is intended to address the needs of all students, regardless of socio-economic status, ethnicity, language, or cognitive abilities.

The European Agency for Special Needs and Inclusive Education share an agreed vision on Inclusive Education among 31 countries that "all learners of any age are provided with

meaningful, high-quality educational opportunities in their local community, alongside their friends and peers" (The European Agency for Special Needs and Inclusive Education, 2019, p.1). However, we cannot consider that Kazakhstan is unique in focusing only on students who require disability-based accommodations. It is common in many countries. For instance, in England, giftedness is excluded from the legal framework for special educational needs, which means high-ability students do not receive additional resources or support (The Good Schools Guide, 2015; Loft and Danechi, 2020). New Zealand's Louise Tapper (2017) also highlights a similar issue, noting that teacher education programmes lack specialised training to support gifted students, which risks reinforcing stereotypes and misunderstandings that can harm these students. In contrast, Scotland's Additional Support for Learning Act (Education (Additional Support for Learning) (Scotland) Act 2004 (2004) includes gifted students under its broad definition of "additional support needs" (ASN), acknowledging that their advanced abilities may require specialised support to flourish. Schools are encouraged to adapt the curriculum and instruction to provide challenges suitable for gifted students, such as accelerated learning or enrichment activities. Parents and students can request assessments, and the Act allows for personalised plans to support gifted learners' needs. While the focus of ASL often leans toward traditional learning challenges, the Act provides a pathway for gifted students to receive tailored support within the inclusive education framework (Scottish Government, 2017). However, research suggests (see for example, McAuliffe, 2025; Sutherland and Reid, 2023) that there is a notable disparity between the Act's ambitious objectives and reality in Scotland. Sutherland and Reid (2023, p.10) argue that Scotland's inclusive legislation provides a foundation for supporting gifted learners, but without effective and "morally imperative teacher education aligned to global principles", this potential may fail to develop in unsupportive school environments. Nevertheless, the exclusion of gifted students from Kazakhstan's inclusive education framework suggests a gap in how the nation defines and supports inclusivity. Gifted students can be vulnerable, too, with unique needs that require dedicated support, whether financial, emotional, or academic. Currently, access to gifted education in Kazakhstan appears limited and exhibits elitist characteristics. Because the gifted schools organise identification and selection of gifted students based on specifically designed selection tests. As the prestige, brand and high-quality education of these specialised schools (gifted school) is well known within society, comprehensive school students want to study in these educational establishments. Thus, students with high score results are selected and put together in a gifted school. The following section 2.5 of the current Chapter will explore how elitism relates to gifted education in Kazakhstan.

2.5 Gifted Education in Kazakhstan

This section discusses different gifted schools in Kazakhstan and their differences in the selection process. From an historical point of view, the most rigorous specialised schools were located in the Soviet bloc nations (Subotnik et al., 2011). In the late 1950s, the Soviet Union created specialised science schools, many of them residential, to train future scientists. Admission was very competitive, often based on winning regional educational Olympiads. The schools, equipped with top professors and a rigorous curriculum, focused on mathematics and science. According to Roberts (2006), admission to specialised schools was highly selective, based on competitive entrance examinations administered by the respective institutions. These views later laid foundations for gifted schools that currently function in Kazakhstan. Actions towards gifted education in Kazakhstan started in 1998 when The Republican Scientific and Practical Centre "Daryn" (*Daryn centre*) of the MoES of the Republic of Kazakhstan was established. It is an organisation responsible for identifying, developing, and promoting projects that aim to work with AGS all over the country, including administering the organisation of educational Olympiads at local, regional, and national level ("Daryn", n.d.). Additionally, the centre supervises and funds the Olympiad teams in the international Olympiads. The winners of Republican Educational Olympiads team up and represent Kazakhstan in international competitions (Daryn, n.d.). Alongside comprehensive schools, there are other forms of secondary schools, each with their own catchment areas and mission statement. They can be named differently based on their classification: lyceums, boarding schools, gymnasiums, and specialisation schools which are deliberately designed for AGS and provide extra hours for specific groups of curriculum subjects depending on their course orientation. The ratio of gifted schools compared to comprehensive schools is extremely low. One of the obvious differences between gifted school students and comprehensive school students can be seen in results of Educational Olympiads. I am using this example as a metric, because there is no other form of official metric to assess the schools' performance in Kazakhstan. The results of NIS and BIL schools' students are on top year after year, leading the Educational Olympiads in regional and national levels (Daryn, n.d.). A strong performance in academic Olympiads is highly valued by the education system in Kazakhstan as an indicator of giftedness. However, this stance seems to be problematic, as the portion of Educational Olympiad winners is significantly low compared to the overall school student population across the country. NIS schools position themselves as, "Committed to a philosophy of holistic learning and education that promotes the academic success and wellbeing of

students, teachers, and the entire school community" (Nazarbayev Intellectual Schools AEO, 2024, p.16). Similarly, BIL schools:

> Foster a supportive learning environment, implementing a curriculum based on national standards and project-based learning, integrating national and universal values, employing highly trained, multilingual teachers, and producing graduates who are multilingual, possess 21st-century skills, and contribute to national and global development (Bilim-Innovation International Community Fund, 2015).

Its core mission is to develop human capital in the nation by fostering capable and well-balanced individuals through national and international educational best practices. Rosen (2008, p.1) describes human capital as "the productive capacities of human beings as income producing agents in the economy." This study only focused on graduates of 2 networks of school, Nazarbayev Intellectual Schools (NIS) and Bilim Innovation Lyceums (BIL), as these two schools have been recognised by society for offering good quality education. Another reason for selecting only NIS and BIL school graduates for the study was because these schools are spread out in different regions of Kazakhstan and are highly admired in society. The next four sections introduce the gifted schools in Kazakhstan that are part of this study and discusses their selection processes, along with their implications to elitism.

2.5.1 Admission and Selection in Gifted Schools

Gifted schools in Kazakhstan (e.g. BIL, NIS) conduct admissions exams in spring (Bilim Innovation International Social Foundation, n.d.; Nazarbayev Intellectual Schools, n.d.). Therefore, this transition point is an important time for gifted learners. Students who pass the BIL/NIS admissions exam can start their 7th grade in the gifted school. Having scrutinised the admissions procedures of BIL and NIS it was difficult to find clear scientific evidence or documented regulations to justify why the admission test is taken by 6th graders. Before discussing the specific selection procedures used in gifted schools, it is necessary to consider why the admissions exam is positioned at the end of Grade 6. While there is no documented policy justification, the anecdotical evidence suggests that the timing is believed to avoid the challenges associated with early adolescence. The following subsection reviews relevant literature to evaluate this assumption

Rationale for Testing at the End of Grade 6: Potential Child Developmental Considerations

Various problems have been shown to occur during the adolescence period, such as school dropout before school completion, high arrest rate, regular consumption of alcohol and drugs, along with depression and eating disorders appear mostly in the period of adolescence (Eccles, 1999). Eccles (1999) further argued that for some children, the adolescent years signal the start of a downward cycle that leads to academic struggle and school failure. Even though the data was gathered over twenty years ago and contextually not related to Kazakhstan, similar issues described above such as school dropout after 9th grade, low interest to school and studying, and bullying at school are commonly seen in Kazakhstani comprehensive schools (Balashkina and Aripkhanov, 2023). Simmons and Blyth (1987, cited in Eccles, 1999) argued that when students attend junior high school, their academic performance, intrinsic motivation and confidence in their intellectual abilities all decline significantly. The negative motivational and behavioural changes outlined above might be the result of either psychological instability linked to early adolescence development or the emergence of multiple life transition periods simultaneously, or the inability of some parents and schools to offer flexible environments that adapt to individual's maturation and independence. Providing timely interventions, relevant guidance and support by trained teachers can help AGS to address their needs in school (Vreys et al., 2018). According to Eccles (1999), the match between social environment traits and an individual's attributes can impact behaviour, motivation, and mental health. Individuals are unlikely to perform effectively or be motivated if they are placed in social circumstances that do not meet their psychological demands. However, literature also suggests that school performance does not necessarily have to change in relation to physiological changes. Dubas, Graber and Petersen (1991, p.455) claimed that "changes in achievement-related behaviour during adolescence should not be attributed to the normative changes in physical development that all adolescents experience." The results of their research indicate that pubertal timing effects on student grades in social studies, language arts, and literature are visible during the early years of adolescence. Particularly, lowest grades were seen in late-developing boys, while late-developing girls received the highest grades. These results may imply that boys could require extra attention and/or academic aid in their late development period. Even though this study applies to all students, it is possible to consider that similar issues apply to gifted students. Another more recent study on children aged 8-11 years in China, indicated that intellectually gifted children, compared to their peers of the same age with average intelligence, achieve higher

results in their academic performance (Li and Shi, 2019). This body of research suggests that positioning high-stakes admissions testing at the end of Grade 6 may be influenced by assumptions about greater developmental stability prior to the more pronounced changes of adolescence. Although no policy documents explicitly justify this timing, anecdotal evidence from Kazakhstani educators indicates that Grade 6 is viewed as a more predictable and academically stable period. This developmental rationale provides a context for understanding how gifted schools design their admissions processes.

Selection Procedures in Gifted Schools

In the following paragraphs selection processes in gifted schools are presented. To be able to study in gifted schools, students need to go through a selection process, by taking a special test. Interestingly, there are several approaches to identification and selection to gifted schools, differing from one another. However, from publicly available documents it is difficult to discern the theoretical underpinnings of the approaches that have been adopted. This calls into question the conceptualisation of giftedness that informs and directs policy and practice.

Selection exam in Nazarbayev Intellectual Schools

The admission to NIS is based on a system of competitive selection of students which meets international standards and aims to ensure objectivity, fairness and the principle of equality for all applicants (Nazarbayev Intellectual Schools, n.d.). According to NIS, the effectiveness of the selection system for admission was confirmed by validation studies in 2016 and 2020 (Nazarbayev Intellectual Schools, n.d.).

The admission test for 7th grade at NIS schools consists of two comprehensive tests that are administered in different days:

<u>a test on subjects of the natural-mathematical direction (120 min)</u>

Mathematics - 40 tasks (400 points)
Quantitative characteristics - 60 tasks (300 points)
Natural science - 20 tasks (200 points)

a language test (120 min)

Kazakh language - 20 tasks (200 points)
Russian language - 20 tasks (200 points)
English language - 20 tasks (200 points)
Time allotted for each comprehensive test completion is 120 minutes.

The results of complex testing are displayed in the form of converted scores. The possible total maximum equivalent score is 1500 points (Nazarbayev Intellectual Schools, 2022b). Based on the test results, the commission awards an educational grant to applicants with a highest overall test score within the allocated grants for specific schools.

The admission test for 8-9th and 11th grade at NIS schools consists of a comprehensive test. The test consists of the following sections:

Mathematics - 30 tasks (300 points)
Physics / Chemistry / Biology - 30 tasks (300 points)
Kazakh language - 20 tasks (200 points)
Russian language - 20 tasks (200 points)
English language - 20 tasks (200 points)

The Commission awards an educational grant to applicants who have scored the highest scores on comprehensive testing, within the limits of the allocated grants for specific schools (Nazarbayev Intellectual Schools, 2022b). However, the selection criteria raise questions, as the minimum passing score is set at 35% of the maximum points, which appears low given the expectations for gifted students (Chernenko, 2023). This percentage suggests potential concerns about the test's difficulty or its alignment with students' ages and abilities.

However, the rules for awarding the educational grants does not clearly state whether the educational grant is awarded for only 1 academic year or through to school graduation. This raises a concern, whether a student already admitted to the school in the 7th grade needs to apply for the educational grant again in the following years. Assuming that 7th graders will not need to take the test in the following years, this raises an issue with limited availability of educational grants in 8-9th and 11th grade admission. No exact or approximate numbers of educational grants or availability of school seats are provided in

the rules for admission to NIS schools. This suggests that the system of admission in NIS schools requires more transparency and equal opportunities for all applicants.

Selection exam in Bilim Innovation Lyceums

The selection and admission test in Bilim Innovation Lyceums (BIL) is administered by Bilim Innovation International Community Fund (MoES, 2020). According to the selection and admission regulations, only the students of 6th grade are eligible to take the test (Bilim-Innovation International Community Fund, 2024). In order to be admitted and study in BIL, students need to pass 2 stages of the selection and admission test.

The first stage exam consists of 60 questions with time frame of 100 minutes.

Mathematics and logic - 40 questions
Kazakh language - 10 questions
History of Kazakhstan - 10 questions

The formula for identifying the result of the exam is the same as in Daryn schools. The number of correct answers is multiplied by the coefficient “4” (four), one wrong answer is multiplied by the coefficient “-1” (minus one). (4*Correct answer + (-1) *wrong answer = Total final score). Applicants with the highest scores in relevance to the admission quota in the first stage of the selection will be allowed to sit the second stage test of the competition (Bilim Innovation International Social Foundation, n.d.).

The second stage exam consists of 75 questions with time frame of 130 minutes.

Mathematics and logic - 55 questions
Kazakh language - 10 questions
History of Kazakhstan - 10 questions

The result is calculated by the same formula as in the first stage. It is worth noting that such a formula promotes students to answer only the questions that they know, instead of relying on luck and selecting a random option in multiple choice questions.

In contrast to NIS schools, no evidence was provided on the validation of the test. On the other hand, the structure of the test in second stage in BILs is the same as in Daryn

schools' admission to the 7th grade. The only difference is in allotted time for the test, in Daryn schools it is 120 minutes, in BIL it is 130 minutes.

For the purpose of acknowledging the other institutions for gifted, below is presented the admissions process used by the "Daryn" network of schools. As the first state-funded institutions established specifically for gifted learners, Daryn schools quickly gained a reputation as elite educational settings that attracted high-achieving pupils from mainstream schools. Highlighting their selection procedures demonstrates that, despite being designed for gifted students, these schools employ differing approaches to identifying and educating such learners. A comparison of the selection practices across three gifted schools illustrates that a student deemed gifted by one institution may not be accepted under the criteria of another. Since system of Daryn schools differed from BIL and NIS school systems, these schools were not included in the research work and will not be discussed in the later Chapters.

Selection exam in Daryn schools

"Daryn" (translated as "Gifted") schools are also designed for AGS. According to the standard rules for admission to study in educational organisations that implement general education curricula of primary, basic secondary and general secondary education in Kazakhstan, children who are transitioning to the 5th, 6th, 7th and 10th grade are allowed to sit the enrolment examination. These schools do not have limitation in terms of accepting students only from 6th grade. The selection process in Daryn schools is proceeded by the standard rules of admission designed by the MoES and executed in cooperation with local Daryn schools and the regional department of public education (MoES, 2022). To ensure transparency in the admission of students in a specialised educational organisation ("Daryn" school), video surveillance and audio recording systems are installed in spaces where the examination takes place. The admission exam for applicants entering Daryn schools is carried out in one round of testing. The disciplines in the examination, the number of question and timing allotted to certain grade level is as follows:

1) 7th grade - 75 questions in subjects: mathematics and logic – 55 questions; reading literacy – 10 questions; history of Kazakhstan – 10 questions.	3) 5th grade - 40 questions on subjects: mathematics and logic – 30 questions; reading literacy – 10 questions.
2) 6th grade - 60 questions in subjects: mathematics and logic – 35 questions; reading literacy – 15 questions; history of Kazakhstan – 10 questions.	4) 10th grade - 95 questions in subjects: mathematics and logic – 60 questions; reading literacy – 10 questions; history of Kazakhstan – 25 questions.

Table 1 Testing for Applicants to Daryn schools

As is seen, the number of questions ranges from 40 to 95 and the test duration is from 1 to 3 hours depending on the grade of the applicant (MoES, 2022).

When calculating the final test results, the number of correct answers is multiplied by the factor “4” (four), while one wrong answer is multiplied by the factor “-1”. Thus, the total is calculated (4* correct answers +(-)* wrong answer = total final score). There is no right to appeal the examination results of the admission test. Enrolment to Daryn schools is carried out from the applicants with maximum number of points in accordance with vacant places in the school. The results are posted on the Internet resources of the Daryn Centre the next day after the test. In addition to the selected applicants, a reserve list of applicants is formed, by the number of points scored in descending order. This reserve list is created to fill up the vacancies that may appear during the academic year in case someone admitted cannot continue their studies in Daryn school for various reasons. The availability of vacancies is posted on the Internet resource of a specialised educational organisation (MoES, 2022).

It is evident that different gifted schools use different selection approaches, suggesting that some students may be identified as academically gifted and be accepted in one school system, but the same student could be rejected in another school system, leaving the identification of gifted to the discretion of schools. In the following section 2.5.2 I present Nazarbayev Intellectual Schools (NIS) and their unique and distinctive features in detail.

2.5.2 Nazarbayev Intellectual Schools

Nazarbayev Intellectual Schools position themselves as schools for gifted children from any background, fostering the future elite of Kazakhstan (Nazarbayev Intellectual Schools, n.d.). They were established in 2008 through an initiative of the President Nursultan Nazarbayev (Nazarbayev Intellectual Schools, n.d.). Since its establishment the government has invested in these gifted schools, with the expectancy of benefit to the whole of society in terms of highly competitive human capital in return (Yakavets, 2014).

Yakavets (2014, p.523) further highlighted that the NIS model of gifted education has its distinctive features:

- State-funded, full-day schools with two directions (specialisations): one is physics–mathematics and another chemistry–biology.
- A new governance structure: High Board of Trustees and a Board of Trustees.
- Academic freedom (e.g. in selecting curriculum).
- Internationally recognised curriculum (e.g. IB and a new curriculum developed with the support of Cambridge International Examination – CIE).
- Trilingual policy.
- Strategic partnerships with major international educational providers.
- Dissemination of accumulated experience: expected to transfer successful experience and practices to the wider system of education in Kazakhstan.

These schools are highly selective in admission for secondary education, funded by the government, well-resourced to offer high spectrum of grants for secondary education and are located in distinct parts of Kazakhstan. The *Orken grant* offers financial support for gifted students, with an annual amount of 2,150,208 KZT ($3977, £2923) (without dorm) or 3,036,859 KZT (with dorm) - ($5617, £4129). However, starting from 2017 self-funded places became available with a tuition fee varying from 1 500 000 – 3 400 000 tenge annually depending on residency status, equivalent to 3000 – 7300 US dollars, which makes it affordable only for children with higher socio-economic background (Nazarbayev Intellectual Schools, 2017). Currently there are 22 NIS schools actively functioning in all

major cities in Kazakhstan (Nazarbayev Intellectual Schools, n.d.). They are all coeducational schools. The mission of NIS is "To enhance the intellectual capacity of Kazakhstan" by offering a curriculum based on standards recognised internationally (Nazarbayev Intellectual Schools, n.d.). They argue this will positively impact the human capital of the country. Yakavets (2014, p.514) highlighted that "in order to make education a more effective tool in developing human capital, and in improving competitiveness, the focus is on science and technology, and a key element has been the creation of elite institutions for gifted and talented students, namely the Nazarbayev Intellectual Schools (NIS) and Nazarbayev University (NU)". According to Carneiro et al. (2010) education and training serve as valuable assets that increase individuals' productivity, leading to higher revenue generation and greater appeal to potential employers. NIS schools educate their students based on international standards, with enriched programmes and develop students' hard skills as well as soft skills. Projects such as the NU, NIS and "Bolashaq" scholarship are targeted to invest in the education of youth, in the expectancy that it will give positive impulse to the economic growth of the country and from a long-term perspective. NIS follow the same State Curriculum Standards as the other schools in Kazakhstan. However, their funding levels excel tremendously compared to all other state schools (Ranking.kz, 2022). Even though the funding of NIS is provided by the government, it has the status of autonomy by law, which allows them to operate independently from the MoES (World Education News Reviews, 2022). NIS schools claim this allows them to be a platform to develop, monitor, research, analyse, test, and implement contemporary educational programmes for primary (including preschool education and training), secondary and upper secondary school, with the most successful ones to be carried out in schools across the country (Nazarbayev Intellectual Schools, 2018). In theory, this educational plan appears promising. However, based on my professional experience and on-the-ground observations of the current situation in Kazakhstan, its success is contingent on meeting several critical conditions. These challenges are not merely hypothetical but are well-documented issues within the country's education system. The first prerequisite is a massive retraining of current teachers. The legacy of the Soviet-era educational system, with its rigid structure and emphasis on a teacher's unquestioned authority, means many educators require new skills to become facilitators of learning instead of the main source of information. As noted by Bekenova and Nygatayeva (2017), this shift requires significant professional development to move from a teacher-centred model to a student-centred approach. Secondly, there is a pressing need to recruit highly qualified teachers to rural areas. The urban-rural disparity in

education is a serious and persistent issue. Rural schools often lack the resources and teaching talent available in urban centres. As research by Yelubayeva et al. (2023) suggests, this problem can only be addressed through targeted incentives and additional resources aimed at bridging this educational gap. Finally, the plan must resolve the systemic issues of teacher shortages and overcrowded classrooms. The Eurasian Research Institute (n.d.) identifies a shortage of qualified teachers as a long-standing challenge in Kazakhstan. This problem, coupled with classroom overpopulation, directly undermines the quality of education and makes it difficult to implement new, student-centred learning models effectively. Addressing these logistical barriers is essential for any reform to succeed beyond the planning stage. The NIS Programme is a Kazakhstani educational brand which is comparable to various international programmes, including A-levels (England and Wales), O-Levels (Singapore), and the International Baccalaureate, among others (Nazarbayev Intellectual Schools, n.d.; Malikova, 2023). This Programme aims to equip its students for undergraduate studies both domestically and abroad, implementing a trilingual language policy where instruction and assessment are conducted in English, Russian, and Kazakh (ECCTIS, 2018). According to the annual report of AEO NIS for 2021, in the 2020-2021 academic year there were 2 305 NIS graduates. 74.4% (1716) of graduates started their undergraduate education in different universities of Kazakhstan. 677 (29%) graduates were accepted to Nazarbayev University for bachelor's degree and Foundation year programmes. 560 (24%) decided to pursue an education abroad. Overall, 98.7% were enrolled in universities, 94.3% were studying with a state grant and other types of grants, in HEIs in Kazakhstan and abroad. 1.3% of the total number of graduates did not enrol in universities for various reasons (academic leave, illness, enrolled in language courses, death).

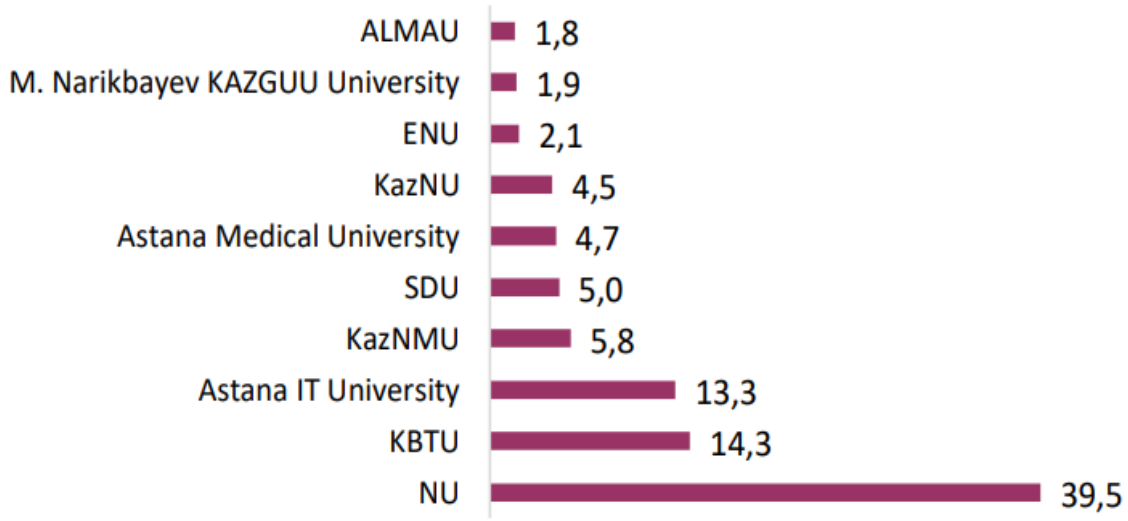


Figure 2.1 NIS graduate student population in HE of Kazakhstan (adopted from NIS Annual Report, p.122, 2021)

Figure 2-1 presents the TOP 10 of the most popular universities in Kazakhstan among 90% of NIS graduates (NIS Annual Report, 2021). The list of top universities has remained stable with minor changes in numbers at least for the last 3 years.

2.5.3 Bilim Innovation Lyceums

Bilim Innovation Lyceum schools are run by the "Bilim Innovation'' International social fund, formerly known as KATEV which stood for "Kazak Turk Egitim Vakfi" in translation meaning Kazakh Turkish Educational Fund, established by a group of entrepreneurs and educators from Turkey (Kocak, 2019). Back in 1992, when the first schools were established, these schools were called Kazakh Turkish Lyceums (KTL) for gifted children. Many of these schools work as a single-sex boarding school. However, in 2016 as the outcome of failed mutiny in Turkey, educators of these and other schools all around the world were accused of terrorism by the Turkish government. To avoid a political dispute and bias from society, the board of the "Bilim Innovation" International Community Fund decided to rebrand the network of KTL schools to BILs (Tengrinews.kz, 2016). According to the data provided by the "Bilim Innovation" International Community Fund (Nurgozhayev, 2022), in 2022 there were 1968 students who graduated from BIL schools. 303 of them were admitted to foreign universities in over 30 countries. This constitutes 15.4% of overall student population. 1558 students continue to pursue their studies in Kazakhstani post-secondary and higher education institutions, 79.16% in

percentile. Table 3 lists the top ten universities with the highest attendance of BIL graduates and presents the BIL graduates' population in Kazakhstani HE and abroad.

Enrolled University	Student population	Percentile
Suleyman Demirel University	241	12.2%
Astana IT University	169	8.5%
Nazarbayev University	165	8.3%
Eurasian National University	89	4.5%
KAZGUU	81	4.1%
KazNU	79	4%
KBTU	77	3.9%
Astana International University	38	1.9%
International IT University	38	1.9%
KazNPU	36	1.8%
Other universities	545	27.6%
Gap year, business, etc.	107	5.4%
Studying abroad	303	15.4%
Total number of students	1968	100%

Table 2 BIL graduate student population in HE of Kazakhstan and abroad (2022)

These 10 universities are attended by 1013 BIL students, which is 65% of the student population studying in Kazakhstan and 51.47% of overall graduates. Out of these 10 universities, 5 are in Almaty and 5 are in Astana. Additionally, 107 students are either taking a gap year, have started work or not attending a university for other reasons. This student population is 5.44% of the overall student population.

2.5.4 Elite or Not Elite?

In the previous sections I discussed how Nazarbayev Intellectual Schools (NIS), Bilim Innovation Lyceums (BIL) and other gifted schools (e.g. Daryn) in Kazakhstan, often display features commonly associated with elitism. These features include selection and creaming off the best school students, offering one shift teaching and pastoral care, creating a rigorous academic environment, whereas comprehensive schools are not able to provide the same for their students. Gifted schools, namely Nazarbayev Intellectual Schools (NIS) have an advantage over comprehensive schools in terms of receiving superior funding and facilities, attracting most qualified teachers (Malikova, 2023). According to Kemelbayeva and Kurmanov (2024), NIS schools in Kazakhstan place strong emphasis on the development of soft skills among their students. However, their selective accessibility often deepens educational inequality by excluding students who lack financial

resources or the ability to relocate. Structural differences result in a limited capacity of student places ranging from 200-500 places in gifted schools and this allows them to teach in one shift. The educational programme at NIS schools pays close attention to pastoral work, organising co-curricular and extracurricular activities which implement "civic, patriotic, spiritual, moral, cultural, aesthetic and labour education" values to their students (Nazarbayev Intellectual Schools AEO, 2023, p.67). However, no documented evidence was found whether similar areas were covered in other gifted schools. Further, gifted schools organise special subject Olympiad training and school camps at the weekends and on term holidays within the school or in different cities (Nazarbayev Intellectual Schools, n.d.). In contrast to gifted schools, most comprehensive schools provide education to students in two/three shifts, because of the overpopulation of school students in the area and a lack of schools and school places, especially in major cities (Ranking.kz, 2022). This means less time is spent in class or at school to attend co-curricular and extracurricular activities were such activities organised. Generally, the first shift at comprehensive schools starts at 8:30 in the morning and lasts until 1pm. The second shift at school starts at 2pm until 7pm. Consequently, it is challenging for comprehensive schools to provide additional educational support in terms of subject Olympiad training or allowing students to spend more time at school to engage in co-curricular and extracurricular activities.

Furthermore, another prominent characteristic is the selective admissions process, which restricts access to a subset of students, suggesting these schools may cater to an elite group rather than the general population. The selectiveness raises questions about elitism in educational institutions for the gifted and its implications in Kazakhstan. In the *Collins English Dictionary,* elite is defined as "the most powerful, rich, gifted or educated members of a group," whereas elitism is "the belief that society should be governed" by such a group (Butterfield, 2003, p. 533). Hughes (2021, p.6) states it as "the sociological practice whereby a group considers itself and/or is considered by others as separate from the mainstream and, in some way, superior." Elite schools, which were historically accessible only to the children of wealthy families, have often played dual roles: educating students while also acculturating them to upper-class values, and assigning status to them. This role has been noted by Baltzell (1958, cited in Gaztambide-Fernández, 2009) as contributing to the "production and reproduction" of an elite class that remains distinct from middle- or lower-class society. Additionally, it does not label them as gifted at any point. Gaztambide-Fernández (2009) makes a compelling argument about acculturating the younger generation to upper class. This acculturation occurs by shaping students' values, behaviours, and identity. It often occurs through a 'hidden curriculum', "a tool that should

be utilised in the development of skills and competencies in students required for workforce" (Rossouw and Frick, 2023, p.2). It emphasises specific social norms, communication styles, and a particular worldview aligned with elite status. Along with academic subjects, students learn how to behave within privileged social circles, internalising norms around leadership, social responsibility, and the cultivation of influential networks. This process is further reinforced through exposure to role models among faculty and alumni, and through the strong influence of a peer group sharing similar socio-economic backgrounds. However, little research has been done on historically elite schools (Gaztambide-Fernández, 2009). In contrast, modern elite schools, particularly in countries like India, focus more on delivering high-quality education, with an increasing emphasis on innovative infrastructure and skilled faculty to attract the best students (Rizvi, 2014). Such elite schools, along with providing their students with rigorous academic training, including achieving high results in standardised test, develop students' intellectual habits, skills, and resilience. They also provide an essential type of socialisation that aids in preparing their students to hold prestigious positions in public after university education (Cookson and Persell, 1985 cited in Mullen, 2009, p. 17). From a financial resources' perspective, NIS schools differ from profit-driven institutions, as they are funded by the government. Most students at NIS are selected by a highly competitive admission test, regardless of students' socio-economic background. However, when students identified as gifted are separated from other peers and put in a different class or school, this raises a concern about gifted schools being elitist (Stanley, 2017). This separation of gifted students can limit opportunities for broader social interaction, which Zhussipbek (2019) argues, may result in aggravating social inequality. Coleman's (1988) study suggests that environments fostering strong networks and trustworthiness can support academic and personal development of children, benefiting society as a whole. NIS schools may offer such an environment, but their selectivity raises concerns about equal opportunity and access. Machalek and Martin (2015) in their research on socio-biology and sociology, also support this idea that social ties can result in human capital development and accumulation. Society benefits from social capital investments, as they foster to create values, social trust, norms, and network that promote coordination and cooperation for the greater good (Renzulli, 2020). While gifted education is seen as being heavily criticised regarding it's assumed elite nature (See for example, Ambrose and Ambrose, 2013), others have different point of views on gifted education. For instance, Delisle (2001) was one of the active supporters claiming that gifted programmes were meant for only exceptional

individuals, supporting its elite features, indicating that giftedness should be considered as something exclusive. He stated elitism in relation to giftedness as:

> If being an elitist means that I still believe in a distinct quality of giftedness that is the domain of the few, not the many; and if being an elitist means that I believe gifted individuals need to be understood as the complex intellectual and emotional beings that they are; and if being an elitist means that I will advocate for a small percentage of children to receive a level of academic rigour and emotional understanding that transcends the typical, then an elitist I shall be. (Delisle, 2001, p.14)

His view proposes that giftedness should be a label given to only selected few, and this selected few should be provided with the best opportunities available, equating giftedness to elitism. Overall, gifted schools in Kazakhstan were not originally designed with the explicit intention of creating or sustaining an elite. Rather, they are rooted in the Soviet legacy of specialised schooling that prioritised the identification and intensive development of students with the highest academic potential, often at the expense of broader equity considerations. However, by privileging excellence over inclusion and separating high-performing students from their peers, this system inevitably acquires elitist characteristics, even if elitism is not its stated aim.

In my prior administrative role at the university, I had access to student databases and was involved in university activities that revealed specific admissions processes. Notably, initial assessment requirements for enrolment in engineering programmes for students from NIS schools demonstrate a unique institutional practice at the university where this study is based. Unlike other students, successful completion of a mathematics test by NIS graduates can result in automatic course credit, circumventing traditional semester-long attendance requirements. This practice, while potentially acknowledging prior learning, raises serious questions about equity and potential elitism within the student body, creating a privileged pathway for a select group. The disparity in assessment and credit allocation between NIS graduates and other students, who must attend classes regardless of their academic background, further highlights the issue of unequal opportunities and inconsistent academic expectations within an institution. The implications of such differential treatment on overall student experience and institutional fairness warrant further examination.

2.6 Giftedness in Higher Education

The transition from school to university represents a significant developmental and academic shift for AGS. Although these students are often expected to excel at higher levels of study, research (see for example, Baslanti and McCoach, 2006; Almukhambetova and Hernández-Torrano, 2020a) shows that gifted learners may experience unique challenges once they enter higher education. These challenges relate not only to personal and academic adjustment but also to broader structural issues within the higher education landscape. In this context, two key concerns emerge: the individual difficulties AGS may face when adapting to university learning environments, and the systemic factors, such as competition for places at prestigious institutions, that shape their educational pathways.

AGS may encounter unexpected personal and academic struggles in university, including a "culture shock" when surrounded by equally or more capable peers, sometimes resulting in reduced self-esteem and motivation (Almukhambetova and Hernández-Torrano, 2020a). Poor time management and study skills are common, as many gifted students may not have developed these due to the relative ease with which they excelled in earlier education (Robinson, 1997). One concern specific to gifted students (AGS) is that those with national or international Olympiad awards often secure admission to top-tier universities abroad (Yuret, 2024). This pattern raises issues around brain drain, as high-achieving students leave their home countries to study elsewhere. It further highlights the need for Kazakhstani universities to offer compelling academic and developmental opportunities with an enriched university experience to retain these students and compete internationally. Global ranking systems are considered as one of the approaches, universities signal their quality, which are explored in the following section.

2.6.1 Understanding the University Rankings

Leading higher education institutions globally, as indicated by rankings such as the Shanghai Rankings, Times Higher Education, QS Top Universities, and U.S. News, predominantly in the United States. However, university ranking systems face significant criticism due to their unstable methodologies, potential rater biases, and cognitive biases like the halo effect (Myers and Robe, 2009). These issues raise questions about the reliability of rankings as objective indicators of educational quality. The halo effect, for example, is a cognitive bias that leads to favourable perceptions of all aspects of an

institution based on one highly regarded department or programme (Whitten, 2022). This bias can distort evaluations and there has been concern about this for some time, as illustrated by Solmon and Astin (1981), who found cases where several universities' undergraduate business programmes received high rankings, even though these institutions did not actually offer such programmes. Rater bias is another longstanding concern. Stuart (1995) noted that raters may be influenced by personal affiliations or may lack comprehensive knowledge about institutions far from their own regions. Such biases can lead to skewed perceptions of quality that do not necessarily reflect the institution's true strengths or weaknesses. Methodological instability in ranking systems further complicates their reliability. For instance, Luca and Smith (2013) highlighted that the U.S. News World Report altered its ranking methodology six times in the 1990s, which dramatically shifted Caltech's position from ninth to first. Frequent changes in ranking positions can attract public attention, generate interest and increase sales for publishers, though they may not accurately reflect institutional changes. Despite these criticisms, university rankings remain a widely used tool for benchmarking and comparing the relative strengths and weaknesses of institutions (Kayyali, 2023). They provide a convenient, though imperfect, reference point for prospective students, parents, and educators. Though not explicitly stated as for AGS, some universities provide specialised programmes tailored for talented university students. These programmes are rigorous in content and named as honours programmes. In the following section, I explore these honours programmes in more detail.

2.6.2 Honours Programmes

According to the National Collegiate Honors Council (NCHC) (2022), honours education is distinguished by learning experiences that are "broader, deeper, or more complex than comparable learning experiences typically found at institutions of higher education." Rinn and Plucker (2019) highlighted a parallel between school gifted education and university undergraduate honours education in the US, by providing differentiated instructions and programming. According to Colangelo (2018), gifted education and honours education have three essential and significant similarities: 1) provide rigorous and enriched educational experience tailored to unique needs of students; 2) selection based on standardised test scores, recommendations and personal statements; 3) acknowledging diverse backgrounds of students and need for alternative admission pathways. Honours programmes in universities are specialised initiatives aimed at providing the talented student with opportunities for advanced, personalised learning (Robinson, 1997). Foundational elements such as "independent study, tutorial approaches, and seminar-style

classes are integral to honours education in the U.S.", offering a tailored educational experience that meets the diverse needs of AGS (Rinn, 2006, p.78). In addition to academic rigour, honours programmes foster intellectual and social networks that support gifted students' intellectual growth, promote self-actualisation, and enhance psychosocial development (Hébert and McBee, 2007). While the U.S. educational system may face challenges at the primary and secondary levels, as suggested by mediocre PISA rankings (OECD, 2023b), the nation excels in developing and implementing honours programmes in higher education. These programmes provide a first-class academic experience, characterised by small classes, a collaborative learning community, and an environment that encourages students to maximise their potential (Powell and Moody, 2021; Kirkic, 2019). While honours programmes offer distinct academic advantages, they have come under scrutiny for reproducing systemic social stratifications within higher education (Brimeyer, Schueths and Smith, 2014). Critics argue that these programmes create an internal segregation, often prioritizing a small cohort of privileged students at the expense of need-based funding for the general population (Achterberg, 2005). This disparity is further exacerbated by a reliance on standardised testing, which historically favours students of higher socioeconomic status and marginalises racial and ethnic minorities (Pehlke, 2003). Consequently, a two-tiered educational environment emerges: one where "elite" students benefit from enriched curricula and higher-level intellectual engagement, and another where the general student body lacks access to the same level of institutional investment and cultural capital development (Brimeyer, Schueths and Smith, 2014). These critiques around issues related to selection, smaller class sizes, and exacerbation of existing social class, which are linked to increased stress (Mental Health Foundation, 2020), have links to my study as the gifted schools in Kazakhstan have similar concerning issues. Nevertheless, Brimeyer et al. (2014, p.69) argue that honours programmes "bring positively influence the broader educational system rather simply creating a privileged class of students and that honours programmes are thus worthy of the financial resources that institutions commit to them." These honours programmes offer a learner-centred environment that aligns with the institution's mission and culture, frequently fostering a community of students and faculty with strong bonds. Honours programmes are also a competitive advantage for colleges and universities, aiding in the recruitment of top students (Powell and Moody, 2021). Their unique curriculum "combines both *acceleration*, by encouraging higher-level conceptual thinking; and *enrichment*, by covering more material than standard courses," thus addressing the advanced intellectual needs of talented students (Robinson, 1997, p.234). The honours education movement in

the U.S. continues to provide a robust framework for nurturing academic and personal growth among AGS, positioning these programmes as a model for gifted education in higher education context (Rinn, 2007).

Considering the commonalities as described in different contexts, exploring these honours programmes as an alternative pathway and additional opportunity for AGS in pursuing a higher education in Kazakhstani universities could have a potential. Kazakhstan already has specially designed gifted schools. If a special university programme with characteristics of honours programmes, along with aligned goals with gifted schools was designed, a partnership between these programmes, could potentially benefit both gifted programmes and honours programmes, in advocating gifted education, building a pool of prospective student for honours programme, nurturing gifted individuals, as well as implementing the government's goal in cultivating future leaders of the country.

2.7 Higher Education in Kazakhstan

Historically, in the territory of Kazakh SSR, higher education in system was established in the 1920s, soon after joining the Soviet Union as an autonomous republic. For the next 70 years, a higher education system oriented largely at preparing highly skilled technical professionals to serve the Soviet Union in meeting its economic, political, and ideological goals developed. Unlike research-oriented universities in the western world, universities across the Soviet Union concentrated nearly entirely on teaching. Most of the higher education institutions were primarily located in major cities such as Almaty (formerly Alma-Ata) or in regions with specific raw materials industries.

Since declaring independence in the 1991, Kazakhstan's higher education has undergone rapid transformation. The reforms promoted the establishment of private higher education institutions as joint stock companies (JSC). As previously mentioned, all higher education institutions were financed by the government, the latest reforms allowed private investors to establish their own HEI, consequently lowering the financial dependency on the government (AllahMorad, 2021). This impacted on the increase in numbers of HEIs within Kazakhstan. However, it has not improved geographical access to higher education, as many newly established universities were in Almaty, which was a capital of former Kazakh SSR and in the first years of independent Kazakhstan (Ahn, E.S., Dixon, J., Chekmareva, L., 2018). Figure 2.2 below shows that Almaty still has a leading position having the highest proportion of HEIs in the country, followed by Astana, the current capital, and Shymkent, a city of republican significance. There are over 100 organisations of higher and postgraduate education in Kazakhstan (Bologna Process and Academic Mobility Center, n.d.,). These organisations include National Universities, State Universities, Private Universities, and other Institutions. In Kazakhstan, organisations running higher education programmes can be called universities, even though they might not be research-focused universities, as world leading universities usually are. State HEI/universities are funded by the government whereas private HEI/universities are more dependent on private investors and shareholders. Higher education is not free; however, state grants are available and are offered on a competitive basis (Mhamed et al., 2016). According to Egov (Electronic Government, n.d.) data, the geographic spread of higher education institutions can be seen in Figure 2-2. Almaty city is the most attractive place for prospective students, as there are 39 higher education institutions with over 170 thousand students in 2021 (Bureau of National Statistics, n.d.). In Astana there are 15 universities. In

the western area there are four different regions with 13 universities in total. The southern part with three regions has 17 universities and 9 of them are in Shymkent city. 13 universities are spread in four different regions in north and 7 more in east. The central part with one region has 8 universities.

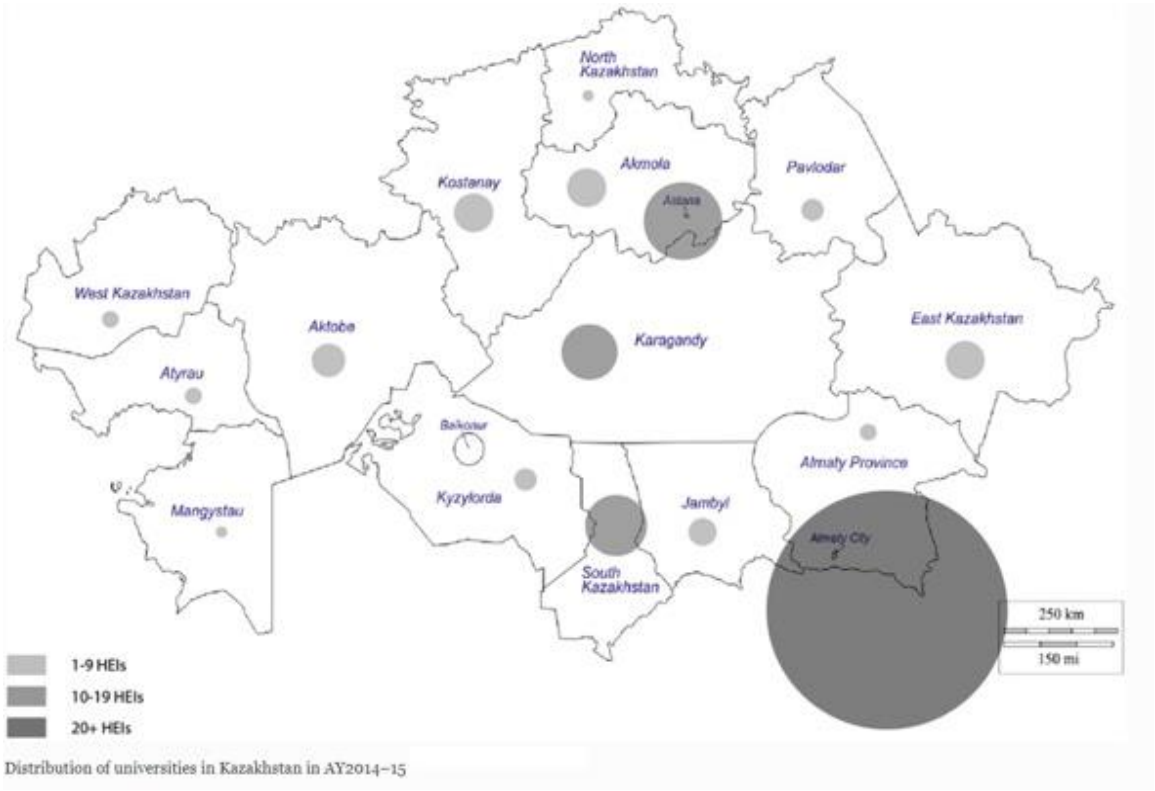


Figure 2.2 This illustration was adopted from Looking at Kazakhstan's Higher Education Landscape: From Transition to Transformation Between 1920 and 2015 (Ahn, E.S., Dixon, J., Chekmareva, L., 2018).

In 2022 the Ministry of Education and Science (MoES) of the republic of Kazakhstan was split into two different Ministries: The Ministry of Education (MoE) and the Ministry of Science and Higher Education (MSHE). The primary reason for its split was a modernisation of the state management system and increasing its efficiency (Akorda, 2022). Students studying for an undergraduate degree (bachelor's degree) generally study for 4 years. Since becoming a member of Bologna Process (BP) in 2010 and by adopting the European Credit Transfer System (ECTS), students from Kazakhstani universities could take part in EU exchange programmes such as Erasmus and TEMPUS (Ilyassova-Schoenfeld, 2019; Kuzhabekova et al., 2019). Additionally, university students were not bound to 4-year study. They could either finish their studies earlier or take their time and graduate in 5 or even 6 years with less pressure and stress on their studies. Students who have completed an undergraduate programme may continue their studies in master's

programmes which last from 1-2 years, depending on the programme details. One of the latest reforms in postgraduate study/research in Kazakhstan is that applicants are required to sit an international language test, such as IELTS or TOEFL (Ministry of Science and Higher Education, 2018). In 2010 Nazarbayev University (NU) was established with a purpose of becoming a flagship university in central Asia oriented to a western style education system. Partnerships with world leading universities were created, including with Cambridge University (UK), University of Pennsylvania (USA) and other universities. The admission process is completely different from other Kazakhstani universities. Instead of the Unified National Test (UNT), students must pass a special exam adapted from the SAT test (Scholastic Aptitude Test), used in HEI in the United States. Most accepted applicants are AGS, who graduated from NIS and BIL schools (Annual report of NIS for 2021, 2022; Nurgozhayev, 2022. A similar trend is seen in Chinese top tier universities, also known as 985 Project institutions (Cheng, 2011). These institutions lead in a wide range of national competitions, including AGS and research funding (Cheng, 2011).

Kazakhstan is pursuing an ambitious strategic transformation of its higher-education sector with the explicit aim of becoming a regional academic hub (REH). This vision is rooted in leveraging international partnerships, infrastructure investment, and technological capacity to both attract foreign students and deepen the country's role as a generator of global talent. As of 2025, Kazakhstan hosts dozens of campuses of foreign higher education institutions, including Cardiff University (the first Russell Group institution in the country), De Montfort University, Coventry University, and Woosong University (Kemelova, 2025). These campuses often focus on priority disciplines such as engineering, technology, and AI – thereby aligning academic capacity with national economic priorities. This strategy encompasses a long-term project to attract 150,000 international students by 2029, a nearly fivefold increase from current international enrolment levels (The Times of Central Asia, 2025). The Figure 2.3 Map of foreign university partnerships below adopted from the Ministry of Science and Higher Education (MSHE), illustrates the map of international university campuses launched within Kazakhstan as of 2025.

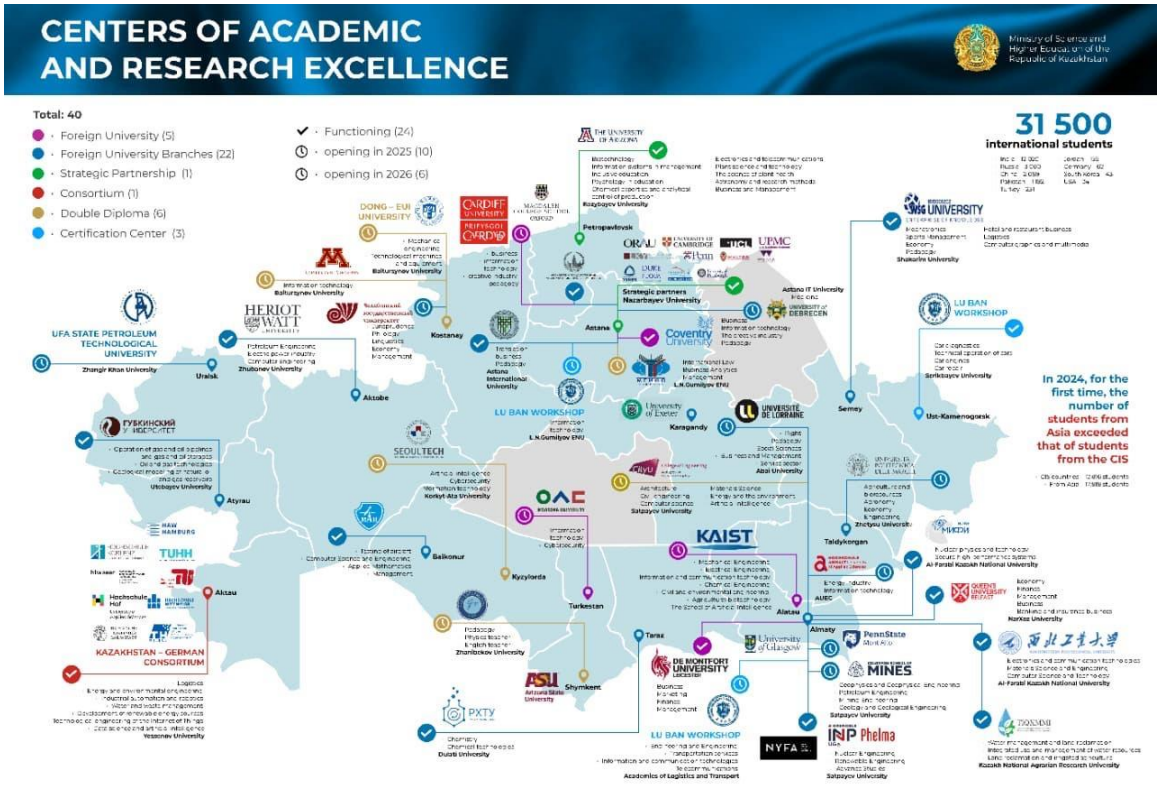


Figure 2.3 Map of foreign university partnerships; adopted from Ministry of Science and Higher Education of Kazakhstan.

According to Kuzhabekova (2024), this initiative holds significant potential to drive transformative socio-economic development across Central Asia and parts of post-Soviet Eurasia. In this context, the Kazakhstani government's efforts represent an important contribution to international development and therefore warrant consideration for strategic support and financial co-investment from international donor organisations. Nevertheless, the ultimate success of this initiative will depend on the government's capacity to draw upon past experiences and to integrate proven best practices. As for AGS, this initiative can serve as a great opportunity to study in the internationally recognised higher education institution without leaving the home country, thus preventing a brain drain. Furthermore, studying in a home country is more cost-effective from a financial perspective compared to going abroad for higher education. Tuition fees for higher education are the liability of the university applicant, as in many countries around the world. However, there is a government support available in Kazakhstan, allocated in the form of state grants for all levels of higher education. The following section discusses the university entrance test, how the state grants support is allocated as well as other available opportunities and schemes for higher education.

2.7.1 Unified National Test

The university entrance exam, also known as Unified National Test (*transl. Ulttyq Biringai Test*) and Complex Test, is a compulsory examination for secondary and postsecondary education graduates if they want to pursue a degree in a higher education institution. Administered by the National Test Centre under the Ministry of Higher Education and Science, the UNT has undergone several structural and functional changes over the last two decades (National Test Centre, n.d.). For many years, it served a dual purpose, functioning as both a general secondary education completion test and a university entrance exam (Information-Analytic Center, 2014).

In 2017, significant reforms were introduced, moving away from the UNT's previous dual function as both university entrance exam and secondary education completion exam (OECD, 2018). After this reform was implemented, UNT became solely a university entrance exam. This change had a notable effect on the "Altyn Belgi" (Golden Mark) designation. This prestigious award is granted to students who have consistently achieved the highest marks throughout their schooling (from 5th to 11th grade) and successfully pass their school exit examination. Before the 2017 reforms, the UNT's dual role (OECD, 2018) placed immense pressure on students, particularly those aiming for the "Altyn Belgi" distinction, as their academic prowess had to be validated through the highly regulated UNT. However, after the reforms, "Altyn Belgi" nominees were able to take the school exit examination within their own schools, eliminating the need to prove their academic excellence exclusively through the UNT. This change led to a noticeable increase in the number of "Altyn Belgi" recipients, as the path to the distinction was no longer tied to the stringent requirements of the UNT.

Structure-wise, the test initially consisted of 120 questions, 30 questions in 4 different school disciplines: Math, Kazakh/Russian language, History of Kazakhstan, and a fourth discipline selected by the test taker. Then it was slightly revised with 125 questions in 5 disciplines with 25 questions each. The 5th added discipline was Russian language for graduates of Kazakh classes and Kazakh language for graduates of Russian classes. The reason for this modification was to increase the status of the Kazakh language and allow the school graduates to acquire two languages (Kazakh and Russian) upon school completion by facilitating it through the test. On the other hand, it was also to avoid a discrimination towards Russian speaking citizens, since Kazakhstan was a part of the former USSR, Russian language still plays a significant political, economic, and

educational role of the country. Even though Kazakh language is an official language, the constitution of the Republic of Kazakhstan, Article 7, states that Russian language has equal status within the state organisations. “Russian language shall be officially used on equal grounds along with the Kazakh language in state institutions and local self-administrative bodies.” (The Constitution of the Republic of Kazakhstan, 1995).

UNT had a lot of criticism from the public, mainly on the testing questions’ topic and quality. It was argued that multiple-choice exams do not accurately reflect the competencies of graduating pupils (Jumabayeva, 2016). In a report of analysis of UNT results for 2012 by MoES, several reasons for negative dynamics in UNT results were highlighted, which include an insufficient level of professional competences in teachers, educational processes being focused and aimed at memorising and training on given materials, and low level of motivation of the graduates in educational processes for example (MoES, 2012).

Another limitation was that the test could only be taken once a year in June after schools go on summer holidays. Taking into consideration the critiques on the issues of the test, UNT was redesigned in 2017. This included the restructure of the test and the inclusion of elements of critical thinking. In the latest update with amendments in the regulations of UNT procedure in 2018, an option to take the test several times a year was offered. The UNT test can now be taken in January, March, June and August. One of the main reasons for this change was to release the stress and anxiety of students to meet the schools, parents and public expectations. Evidence suggests that interaction with more able peers’ benefits students (Sacerdote, 2001) and that parents prefer their children to attend schools with higher achieving students (Abdulkadiroğlu et al., 2020). Numerous research studies on student depression conducted in various countries suggests that students feel pressured before taking their university entrance tests (Lafraniere, 2013; Thomas, 2016; Yildirim, Ergene, and Munir, 2007). According to Mullen (2009), there are three sets of factors that may affect students’ educational decision-making. The first one is a family, where children’s expectations of themselves are influenced by their parents’ educational aspirations for them (Looker and Pineo 1983, cited in Mullen, 2009). The second influencing factor is school. Higher socioeconomic status (SES) students are offered more thorough guidance counselling and assistance with the university admission process by their schools (Mullen, 2009). A last influence on students’ choices is friends. Friends that share a social circle frequently have similar aims and support one another’s ideas and goals (Mullen, 2009). Similarly, in Kazakhstan, all three mentioned factors play a significant role

in students' decision-making. Financial conditions can be added as a fourth factor. There is government support in terms of a state grant available for students who wish to pursue higher education. However, this support is available to 30-40% of school graduates each year through the contest of educational grants. The rest will have to pay for their studies. Therefore, the majority of school graduates try to win the educational grant and avoid creating financial hardship for their parents by them having to pay for their studies.

Despite long-standing criticism of its emphasis on memorisation and limited assessment of higher-order thinking, the Unified National Test continues to play a central role in Kazakhstan's education system, particularly for AGS. For many years, especially prior to the 2017 reforms, the UNT served as the main means through which academic excellence was officially recognised, placing considerable pressure on high-achieving students, including those aspiring to the "Altyn Belgi" distinction, to confirm their abilities through a single high-stakes examination. Exemplary performance on this high-stake test ensures tuition-free higher education opportunities for secondary school graduates, including AGS. (OECD, 2018). Although subsequent reforms reduced the UNT's role as a school exit assessment and introduced greater flexibility in test-taking, performance on the UNT still strongly influences AGS students' access to selective universities and competitive fields of study. At the same time, the continued reliance on a standardised test raises questions about whether all forms of academic giftedness are adequately captured, particularly abilities related to critical, creative, or analytical thinking. In this way, the UNT assesses students' knowledge, as well as shapes how academic giftedness is understood and valued within the education system, with important implications for the educational pathways of AGS.

2.7.2 The State Grant System for Higher Education

The grant system works on quota basis. The quota for a state grant is identified by the predicted shortfall of the workforce, by means of retirement and other factors, in certain fields by the time the first-year students will graduate (Mhamed et al., 2016). For example, in humanities and social sciences the demand for workforce is low but the applicant numbers can be high, which reduces opportunities for those who have lower UNT test scores. On the other hand, there is usually a high demand for agriculture but a small number of applicants willing to study in those programmes. To decrease the shortage of future workforce, even those with low UNT test scores can be awarded a state grant. Mhamed et al., (2016) state that only 20-30% of students receive state grants. However, if

we look at the numbers of state grants allocated in recent years with increase of government support on youths' higher education, this trend is gradually rising (MoES dated July 2, 2021 No. 316., 2021). For example, in 2021 there were over 140,000 high school graduates (Bureau of National Statistics Kazakhstan, n.d.). According to the data provided by the "National Test Centre", 77225 applicants applied for the contest state grant (National Test Center, 2019). The Ministry of Education and Science (MoES) allocated 59261, 54261 and 54261 state grants for the previous academic year and the upcoming two academic years, respectively (MoES dated July 2, 2021 No. 316., 2021). These figures suggest that the grant allocation for 2021 was around 37% of the overall population of high school graduates. The universities in Kazakhstan are dependent on tuition income. Tuition is paid by around 70–80% of students in higher education institutions (Mhamed et al., 2016). Instead of paying for the higher education themselves, the majority of students prefer tuition fees to be paid by public funds. Students must get a sufficiently high score on the Unified National Test (UNT), which acts as the entry to higher education, to be eligible for the merit-based state grant and free admittance to higher education (Mhamed, Vossensteyn, Kasa, 2021). Therefore, the result of this grant allocation plays a significant role for many students' decision-making of the university and the programme they want to pursue. However, some private universities in Kazakhstan, such as KIMEP University, have adopted a distinct strategy by prioritising self-paying students while attracting high-achieving applicants through merit-based scholarships. Unlike institutions that rely heavily on state grants, KIMEP follows a Western, particularly U.S.-style, higher education model that provides greater financial and institutional autonomy (QS Top Universities, 2025). This independence allows the university to maintain high academic standards, control its student intake, and support student retention. By enrolling students able to cover tuition costs, KIMEP avoids the limitations of state grants, which often fail to meet the full costs of specialised programmes. To attract AGS, the university offers competitive, internally funded scholarships based on English proficiency, academic performance, UNT scores, essays, and notable achievements at national and international levels (KIMEP, n.d.). This approach distinguishes KIMEP within Kazakhstan's predominantly state-funded higher education system and represents a viable alternative, particularly in the context of potential reductions in public funding.

2.7.3 The Implications of Educational Olympiads to Higher Education Opportunities

From the perspective of Educational Olympiads, which is highly emphasised and considered as an index in education excellence in Kazakhstan, gifted school students outscore students from comprehensive schools. According to the recent results of educational Olympiads held in 2022, the best 104 Olympic schools were identified ("Daryn", n.d.). In the top 20 schools, there were 12 out of 28 BIL and 4 out of 22 NIS schools. The role of the educational Olympiads in distinct school disciplines is a significant part of measuring quality in the education system of Kazakhstan (Zhussipbek, 2019). The performance shown in such Educational Olympiads are considered not only as one of the crucial factors determining the school's performance but also identifying the high-achieving talented students in each discipline (Zhussipbek, 2019). Furthermore, winning medals in the international Educational Olympiads guarantees students a state grant for university admission. The legislative Act of the Republic of Kazakhstan on the protection of the rights of children, education, information and informatisation states:

> Winners and prize-winners of international Olympiads in general education subjects and international competitions of performers, sports competitions (awarded with diplomas of the first, second and third degree) of the last three years according to the list approved by the authorised body in the field of education, are credited with the award of an educational grant in educational organisations implementing educational programs of higher education, on the basis of their application, subject to the compliance of their chosen specialty with the subject of the Olympiad, competition or sports competition. (Law of the Republic of Kazakhstan, 2022)

If international Olympiad winners want to pursue a university degree having a state grant without a Unified National Test (UNT) result, the programme they want to study should be directly related to the discipline in the Olympiad. Additionally, in the same legislative Act it is stated that "winners, prize-winners and teachers who prepared them are encouraged by a one-time remuneration at the expense of budgetary funds." (Law of the Republic of Kazakhstan, 2022) This could be a great incentive not only for students, but also for teachers as it demonstrates that their challenging work on preparing students is valued. Sahin et al. (2015) stated that "students believed their participation in I-SWEEEP reinforced their plans to study Science Technology Engineering Mathematics majors in universities and helped them develop the full range of twenty-first century skills" (p.795). I-SWEEEP is an international Olympiad for engineering, energy and environmental projects for high school students. This study may suggest that high school students who

participate in Educational Olympiads may tend to be predisposed to pursue a career in the same or similar field as the subject of the Olympiad. Considering students' aspirations, interests, certain level of preparedness and achievements in international Olympiads, in addition to standardised test scores, could help these students to stand out among other applicants not only in Kazakhstani universities, but also when competing to be awarded scholarships in world leading universities.

Similarly, the Kazakhstani government recently introduced a new route of existing "Bolashaq" scholarship opportunity specifically for winners of international educational Olympiads, who are considered as AGS. While the Bolashaq scholarship discontinued undergraduate support in 2011 to focus on graduate programmes (Orazgaliyeva, 2014), a recent change in the law provides a new opportunity for high school students who are awarded top places in International Educational Olympiads. The Law of the Republic of Kazakhstan on Education, Chapter 5, Article 26, Paragraph 4, now states that Kazakhstani citizens who have been awarded first, second, or third-degree diplomas in international Olympiads or scientific project competitions within the past three years are eligible to compete for the Bolashaq scholarship. This allows them to pursue undergraduate degrees at leading foreign universities, provided their chosen field of study aligns with their Olympiad subject and they are unconditionally accepted by the academic institution (Ministry of Justice of the Republic of Kazakhstan, 2007). This amendment demonstrates Kazakhstan's commitment to recognising and rewarding gifted students who excel on the global stage. It offers a direct pathway for these high achievers to access world-class education. According to numerous media reports, many recent Olympiad winners come from Nazarbayev Intellectual Schools (NIS), which are specifically designed for gifted students (See for example Kurmanov, 2025; Ministry of Education of the Republic of Kazakhstan, 2025; Akimat of Karaganda region, 2025; Shakhmardan Yessenov Foundation, 2025). This initiative provides a valuable opportunity for individual gifted students, as well as highlighting a growing trend in Kazakhstan to nurture and support its most talented youth.

2.8 Chapter Conclusion

Kazakhstan's education system retains strong Soviet-era influences, including a highly centralised governance structure, uniform curricula, and limited local authority. Although the country has pursued numerous reforms, the system continues to struggle with issues of centralisation, uneven resource distribution, and the limited capacity of mainstream schools to meet diverse learner needs. Further, the role of gifted education within inclusive education, in particular an issue of negligence of gifted education compared to support of special needs children in different contexts were discussed. Despite numerous problems in the education sector, the issues are being resolved gradually. For instance, UNT has been revised and redeveloped several times structure-wise, allowing students to take the test digitally several times a year. This supported the decrease in student anxiety, eliminates the human factor, and decreases the possibility for cheating, as well as increasing transparency in the test and reducing corruption in the Kazakhstani higher education context (OECD, 2018).

Kazakhstan's approach in educating AGS is focused on specially designed schools, mainly dominated by schools such as NIS, BIL and Daryn. These networks offer enriched curricula, strong academic outcomes, and pathways to top domestic and global universities, yet their entrance examinations vary widely and lack consistency. Furthermore, the theoretical foundations of the implemented approaches are difficult to understand fromaccessible public materials. This throws into doubt the conceptualisation of giftedness that informs and guides policy and practice. As a result, a student might be labelled "gifted" in one system but not in another. While critics argue that gifted schools can deepen inequality (Kemelbayeva and Kurmanov, 2024), supporters contend that specialised programmes are necessary to meet the needs of gifted students. Nevertheless, given the current limitations of the broader education system, these institutions play a significant role in cultivating national talent, even as equity concerns remain, since many mainstream schools cannot yet offer the same level of support and resources.

When gifted students transition to the university, they often face new challenges such as a culture shock, loss of confidence, and underdeveloped study skills. Many gifted students choose to pursue higher education abroad, partly because of the influence of global university rankings, even though these rankings are often biased and unreliable. Honours programmes used in countries like the U.S. may offer an alternative model to support AGS, by providing academically rigorous, learner-centred environments that better meet

the needs of AGS and may offer useful insights for Kazakhstani universities seeking to retain their top talent.

Kazakhstan's higher education sector is undergoing substantial transformation. Since independence, integration into the Bologna Process, establishment of Nazarbayev University, and recent efforts in attracting international universities to open their campuses in Kazakhstan have signalled a shift toward greater internationalisation and academic competitiveness. However, access to higher education still remains uneven across the country, and competition for government grants remains extremely high because of the Unified National Test (UNT). Recent reforms, such as flexible UNT scheduling, increased scholarship routes, and alternative admissions mechanisms, suggest a growing recognition of the need to value multiple forms of academic excellence.

Taken together, these developments highlight a system that is evolving but still facing tensions between excellence and equity, tradition and modernisation, and wide access and elite pathways. Moving forward, consideration needs to be given in Kazakhstan to balance these priorities by improving how it identifies and supports gifted students, strengthening university-level support, and ensuring that opportunities for high-quality education are available to all students. The next chapter presents a literature review on the concept of "giftedness" and talent development from various theoretical perspectives. Considering research participants are anticipated to have graduated from gifted schools and had begun their further education, a discussion on approaches in teaching AGS followed by leadership skills development among AGS will be presented.

Chapter 3 LITERATURE REVIEW

3.1 Introduction

This chapter critically examines the existing literature to establish a foundational understanding of giftedness and gifted education. Giftedness, as a construct, is complex and lacks a universally agreed definition (Davidson, 2009). Early research on giftedness (see for example, Galton, 1883; Binet and Simon, 1916), dating back to the early 1900s with the development of IQ testing, sparked varied perspectives, which have since evolved to include a range of cognitive, emotional, and social dimensions. This review will outline key definitions and theories that inform understandings of giftedness, as well as examine the criticisms gifted education has faced, particularly the accusation of fostering elitism (Ambrose and Ambrose, 2013). Given Kazakhstan's recent emphasis on inclusivity, these critiques are particularly relevant in evaluating whether schools like NIS and BIL reflect an elitist model. Additionally, the chapter addresses the implications of inclusive education for Kazakhstan's vision of equitable schooling, exploring how gifted education aligns, or conflicts with this vision. This framework sets the stage for examining the primary focus of this study: the higher education experiences of gifted school alumni. Understanding these experiences provides insight into how these graduates manage their new academic environments, where they transition from highly selective schools labelled only for gifted, to being a student amongst many other students in the university.

The chapter also reviews the key areas to my study, including teaching AGS in a higher education setting and providing leadership development opportunities for AGS within the higher education institution. In school education, teaching AGS requires specific pedagogical and professional training. Similarly, teachers in higher education may as well require such professional development, as they also encounter mixed ability students, including AGS, in their classrooms. Regarding leadership development among AGS, it was mentioned earlier in Chapter Two that gifted schools in Kazakhstan prioritise nurturing future leaders of the country. By examining these areas, this chapter aims to lay foundations and inform why the research questions set out for this study are important to address.

3.2 What is Giftedness?

In this Chapter, I begin by reviewing the literature on the various perceptions of giftedness and consider these perspectives in relation to my study. It is challenging to come to an agreement on what constitutes giftedness, as throughout history the definition and understanding of the term giftedness has often changed, consequently influencing the studies on giftedness (Stoeger, 2009). Utilising IQ tests as an identification tool for secondary and higher education gifted programmes has been and still is widely used all over the world (Subotnik, Stoeger, and Olszewski-Kubilius, 2017). Others argue that IQ tests do not enable traits of an individual inclined to giftedness to be identified, thus overlooking the gifted individuals (Sternberg, 2018). In other words, while IQ tests are useful in measuring certain aspects of intellectual ability, it has been argued that they have important limitations when it comes to identifying giftedness across domains and particularly in the arts, music, athletics, or creative problem-solving. This is because the metrics employed in IQ assessments focus almost exclusively on cognitive abilities, leaving out non-cognitive traits such as creativity, motivation, or exceptional performance in non-academic areas.

The tension between traditional IQ-based approaches and broader understandings of giftedness has given rise to ongoing debates in both research and practice. On one hand, narrow, test-driven definitions of giftedness are easier to standardise, compare, and administer across large populations (Mcclain and Pfeiffer, 2012; Kral, 2009). On the other hand, many scholars and educators argue (See for example, Renzullli, 2011; Gardner and Hatch, 1989) that such approaches fail to capture the full range of human potential and may even disadvantage individuals whose strengths lie outside conventional academic domains. These debates have gradually shifted attention from unidimensional conceptions of giftedness, which emphasise intellectual ability alone, toward multidimensional models that account for creativity, task commitment, leadership, and domain-specific talents. The following sections examine these contrasting perspectives in greater detail.

3.2.1 Unidimensional Giftedness: Era of IQ

Giftedness, as a concept, has evolved significantly over time, originally based on unidimensional approach, which measured cognitive abilities (IQ) of an individual (Subotnik, Stoeger, and Olszewski-Kubilius, 2017). Early researchers, (See for example,

Galton, 1883; Binet and Simon, 1916), laid the groundwork for IQ testing, which became the primary measure of intelligence. Stoeger highlighted that "the original intentions of Binet and Simon (1905) were to develop a selection process for intellectually challenged children" so that they could be supported (Stoeger. 2009, p.18). However, the IQ-centric approach quickly expanded to wider populations and became synonymous with high scores and gifted individuals. For instance, on the basis of Binet's work, Terman developed the Stanford Binet test to identify individuals with above average level of intellectual abilities (Stoeger, 2009). Although Binet's work lay the foundations to the creation of IQ tests, it was criticised for its limitations. Stern (1911) and Wechsler (1939) pointed out that IQ testing is limited in scope. Stern (1911) argued that age-related differences make IQ scores an uneven predictor across different life stages. For instance, if a 5-year-old has the intelligence level of a 3-year-old, it's a significant developmental gap. However, if a 15-year-old has the intelligence of a 13-year-old, that difference matters less because average brain development slows as children grow and become adults. The development of intelligence is similar to human physiological development (Stoeger, 2009). As individuals grow, they go through various physiological changes in height, weight and appearance. At the age of around 25, the physiological changes become steady. Wechsler (1939) also noted the diminished relevance of IQ scores as physical and intellectual growth stabilise in adulthood. Furthermore, while some argue that high IQ can predict academic and career outcomes (Terman and Oden, 1959), it does not necessarily equate to groundbreaking achievements, such as Nobel-level contributions. Even though researchers (See for example, Sternberg, 2018) claim that accepting the concept of high intelligence (IQ) as the identifying characteristic of giftedness has become outdated, employing IQ tests in identifying gifted and talented, along with achievement test results is still in use (Carman, 2013; Lamparske and Pijanowski, 2022). According to Subotnik et. al. (2017) the reasons for using IQ tests to identify supposedly gifted individuals is due to lack of financial resources in using other identifying techniques and their time-consuming nature. Therefore, using IQ tests for the identification of gifted individuals is widely practised in gifted programmes. Other identifying techniques suggested by Kelemen (2012) include observations and nominations made by parents and teachers. Ambrose and Machek (2014, p.126), in their multi-method approach in identifying gifted students, further highlighted the importance of "teachers receiving adequate training to recognise and assess all students for eligibility". In addition, cultural variations in skill and knowledge challenge the unidimensional view of giftedness (Stoeger, 2009). In a contemporary world, where the ever-evolving science has reached tremendous accomplishments, there are still people

relying on their set of centuries-old skills handed down by their ancestors. For example, the navigation and survival skills essential to Arctic communities demonstrate a form of mastery that IQ tests fail to recognise. While these abilities may not be captured by conventional intelligence measures, they reflect advanced problem-solving, spatial awareness, and adaptability traits (Kuo et al., 2010) that align with broader conceptions of giftedness, particularly those that emphasise domain-specific talents and contextual intelligence. This example presents support for the need for a more culturally responsive and multidimensional approach to defining giftedness, which I further explore in the following sections. Thus, while IQ tests remain a widely used tool for participant selection in research and gifted programmes (Subotnik et al., 2017), a shift toward a multidimensional approach is necessary for a more inclusive understanding of giftedness.

3.2.2 Multidimensional Giftedness

Over time, the concept of giftedness evolved from a unidimensional focus on intellectual ability to a multidimensional model that recognises a broader range of attributes. The multidimensional model presents giftedness from broader critical indicators, such as creativity and motivation, expanding from unidimensional concept which only encompasses intellectual abilities of an individual. Renzulli (1982) proposed two notions of giftedness: “schoolhouse giftedness” and “creative-productive giftedness.” He defines schoolhouse giftedness as “the kind most easily measured by IQ or other cognitive ability tests” (Renzulli, 1982, p.11). Students who score highly on these tests often excel in structured, traditional learning environments and typically achieve high grades. However, Renzulli (2011) argues that IQ scores alone do not fully predict academic success, as they account for only a portion of the variance in performance. He suggests that relying solely on IQ to identify gifted students may overlook those who, while performing slightly below the conventional threshold, still exhibit advanced abilities in the curriculum. Therefore, instead of only relying on IQ test scores, Renzulli suggests a more flexible approach to recognising giftedness. In contrast, “creative-productive giftedness” emphasises originality and the impact of creative work on targeted audiences. He describes it as “those aspects of human activity and involvement where a premium is placed on the development of original material and products that are purposefully designed to have an impact on one or more target audiences” (Renzulli, 1982, p.12). This type of giftedness requires an integrated, inductive use of knowledge and processes that extend beyond simple information retention. Instead of excelling solely in exams, individuals with creative-productive giftedness are knowledge producers, capable of reshaping ideas across fields. While traditional measures

of intelligence and academic achievement are important, they only tell a limited part of the story when it comes to identifying gifted individuals. Renzulli argues that this creative dimension is crucial for individuals who will contribute meaningfully to society. Studies on highly creative individuals reveal that those recognised for significant accomplishments exhibit three interconnected clusters of traits: "above-average though not necessarily superior general ability, task commitment, and creativity" (Renzulli, 2011, p. 83). Renzulli emphasises that no single cluster independently constitutes giftedness; rather, it is the interplay among these clusters that drives creative accomplishments. This interaction, shown in Figure 4, highlights that all three traits are equally important in defining creative-productive giftedness.

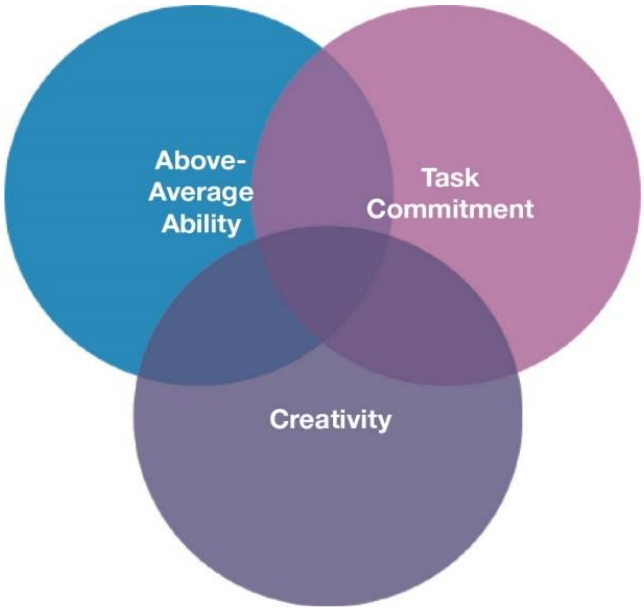


Figure 3.1 The Ingredients of Giftedness. Adopted from What Makes Giftedness?: Re-examining a Definition (Renzulli, 2011)

According to Renzulli (2011), the recognition of such giftedness relies on observable demonstrations of creativity, task commitment, and above-average ability, which means that giftedness must be manifested in performance or products before it is acknowledged. However, this emphasis on demonstrated achievement can disadvantage students from underprivileged backgrounds or those in schools with limited resources who may not have access to the opportunities needed to showcase their abilities. Moreover, whether these demonstrations are recognised as indicators of giftedness depends heavily on the definition of giftedness adopted by the assessor. Heller and Hany (2004, p.306) stated that the process of identification is "dependent on both the theoretical framework used to define giftedness or talent and the specific purpose for which that definition is applied." Narrow

conceptions, such as those based solely on IQ, may exclude students who display creativity or task commitment, whereas broader models, such as those proposed by Renzulli's (2011) Three Ring Model or Gagné's (1985; 2004) Differentiated Model of Giftedness and Talent (DMGT), provide greater scope for recognising diverse forms of gifted performance and highlight how environmental and contextual factors shape whether giftedness becomes visible. In Figure 3-2 the illustration of Gagné's DMGT model is presented.

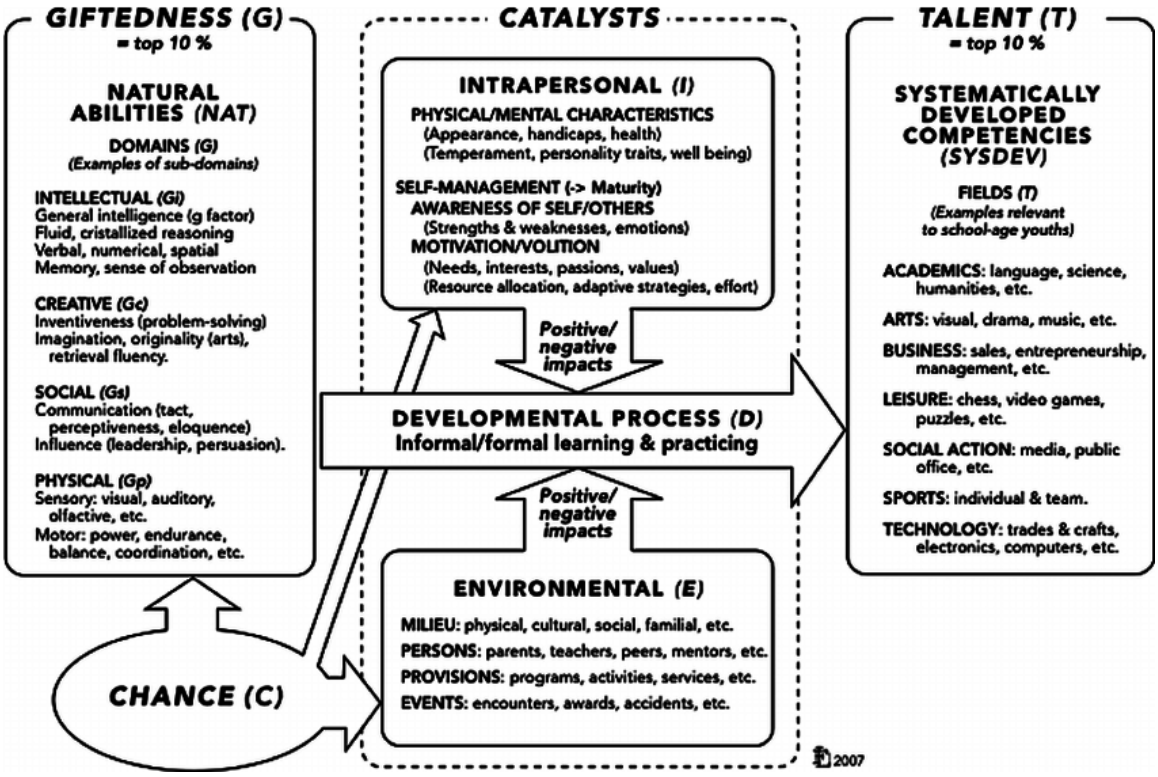


Figure 3.2 Gagné's differentiated model of giftedness and talent (DMGT.2007)

Gagné's DMGT model provides a clear distinction between the terms *gifted* and *talent*, suggesting that natural abilities turn into competence through intrapersonal and environmental catalyst impacting the developmental process from point A (gifts) to point B (talent). However, Gagné proposed an updated DMGT 2.0 model, which encompasses broader mental and physical domains and a more structured view of the developmental process, ensuring a more comprehensive alignment with the themes explored in this research. Gagné's DMGT model 2.0 is discussed in more detail in section 3.3 What is Talent? of Chapter Three.

Renzulli's model, which focuses on creative-productive achievements, has the potential to encourage schools to actively create these opportunities for a wider range of students,

thereby fostering talent development rather than just identifying it. Potential practical examples of such opportunities for schools could include educational fairs, educational Olympiads, sports and extracurricular competitions, or art exhibitions organised within the schools. In Kazakhstan, giftedness at school level is largely equated with academic attainment. Consequently, in this study I refer to such learners as 'academically gifted students' (AGS), recognising that their giftedness is validated through consistently high academic performance. The identification of AGS in Kazakhstan therefore depends on students demonstrating excellence in examinations, success in national and international Olympiads, and gaining admission to prestigious universities, often with scholarships. This reliance on demonstrable academic performance reflects a definition of giftedness rooted in scholastic achievement, which corresponds to Renzulli's (2011) concept of schoolhouse giftedness.

3.3 What is Talent?

Subotnik and her colleagues (2011) proposed that giftedness represents raw potential, which, when nurtured through external influences, develops into talent. The authors further suggested that with continued growth, talent evolves into competence, then expertise, and finally, for a select few, into eminence in their field. Worrell et al. (2021) describe eminence as the "endpoint of a talent development trajectory" (p.3), which often begins with identifying gifted students in schools. However, gifted education typically emphasises academic development during school years (Makel, Putallaz and Wai, 2012), often without supporting students' progress beyond graduation or during transitions into tertiary and higher education. Thus, gifted programmes mainly aim to develop potential into competence, leaving expertise and eminence to advanced studies and professional experiences (Subotnik et al., 2011).

While many people demonstrate giftedness – potentially 10% or even 1% of the population – only a fraction develop true expertise, and fewer still achieve eminence. Simonton (2018) notes that eminence is rare, as it requires not only deep expertise but also exceptional recognition from other experts in the field. This distinction, which Howley (1987) refers to as "distinguished superiority," involves rare achievements that are highly valued by society. Worrell et al. (2018) further define eminence as:

> the title reserved for individuals with fully developed talents who are extremely gifted in a domain relative to other highly gifted producers and performers in that domain. This relative superiority is acknowledged by the most knowledgeable members of the domain and is typically related to a contribution or sustained contributions that have had, or will have, a lasting and memorable impact on the domain. (Worrell et al., 2018, p.249)

This relative superiority, recognised by experts in the field, is often linked to contributions that have a lasting impact. Eminent figures, such as Messi and Ronaldo in football or Einstein in physics, are widely recognised even outside their fields, illustrating that, while expertise is common, true eminence is rare and extraordinary. Building on this conceptualisation of giftedness as the starting point of a developmental trajectory that may, for a select few, culminate in eminence, it becomes necessary to adopt a framework that clearly distinguishes between the early stages of potential and the later stages of demonstrated accomplishment. This distinction is particularly notable within educational paths, where giftedness is often identified during schooling, yet its transformation into talent depends largely on whether higher education institutions provide the conditions

necessary for continued development. While Subotnik et al. (2011) and Worrell et al. (2021) highlight the gradual progression from giftedness through competence and expertise toward eminence, their accounts underscore the importance of clarifying what constitutes "giftedness" versus "talent." This distinction is precisely where François Gagné's Differentiated Model of Giftedness and Talent (DMGT) offer a valuable theoretical lens. By defining giftedness as innate, untrained ability and talent as systematically developed skill, Gagné offers the conceptual clarity needed to examine how raw potential can, under the right conditions, evolve into measurable achievement.

Gagné's Differentiated Model of Giftedness and Talent

François Gagné's (2008) Differentiated Model of Giftedness and Talent (DMGT) was initially selected as the theoretical framework for this study due to its clear conceptual distinction between natural abilities (giftedness) and developed mastery (talent). However, a subsequent analysis of the DMGT 2.0 revealed that its expanded domains and refined developmental components align more precisely with the specific variables of this research. Consequently, the DMGT 2.0 was adopted to provide a more robust and contemporary framework for analysing the transformation of gifts into talents. Unlike models that use these terms interchangeably, causing significant contradictions in the field, Gagné's (2013) framework provides a crucial clarification by defining giftedness as the possession of innate, untrained potential ("gifts") and talent as mastery (of skills) gained through structured training. He proposes defining giftedness as: "the possession and use of untrained and spontaneously expressed natural abilities (called outstanding aptitudes or gifts), in at least one ability domain, to a degree that places an individual at least among the top 10 percent of age peers" (Gagné 2013, p.194), in other words, the natural ability or potential. It means that giftedness is an innate, unlearned potential. It is not the result of practice, training, or formal education. Instead, it is a raw, natural ability that can be observed in an individual's behaviour or performance when offered the right opportunities but without them having received special instruction. For instance, a student who can solve complex puzzles or understand advanced mathematical concepts far beyond their peers, without any formal teaching, could potentially be considered gifted in that domain. Talent is the subsequent, developed mastery of skills and knowledge. As Gagné (2013, p. 194) states:

> Talent is the outstanding mastery of systematically developed abilities (or skills) and knowledge in at least one field of human activity to a degree that places an individual at least among the top 10 percent of age peers who are or have been active in that field or fields. (Gagné, 2013, p. 194).

To put it another way, talent represents the developed skills or accomplishments arising from that potential. This separation is particularly useful for understanding the complex process of talent development, as it highlights that high potential alone does not guarantee achievement. Instead, it emphasises the importance of various developmental catalysts, both intrapersonal and environmental, in nurturing a gift into a talent. Consequently, this model offers a robust and comprehensive lens through which to explore the factors that contribute to high-level accomplishment, making it an ideal choice for investigating the experiences of gifted students. Gagné's definition challenges the common misconception that being gifted automatically equates to high achievement or talent. It positions giftedness as a potential that must be nurtured to become a developed skill or talent. This reframing has significant implications for how we identify and support gifted students, emphasising the need for intervention and developmental opportunities rather than simply expecting giftedness to lead to success on its own.

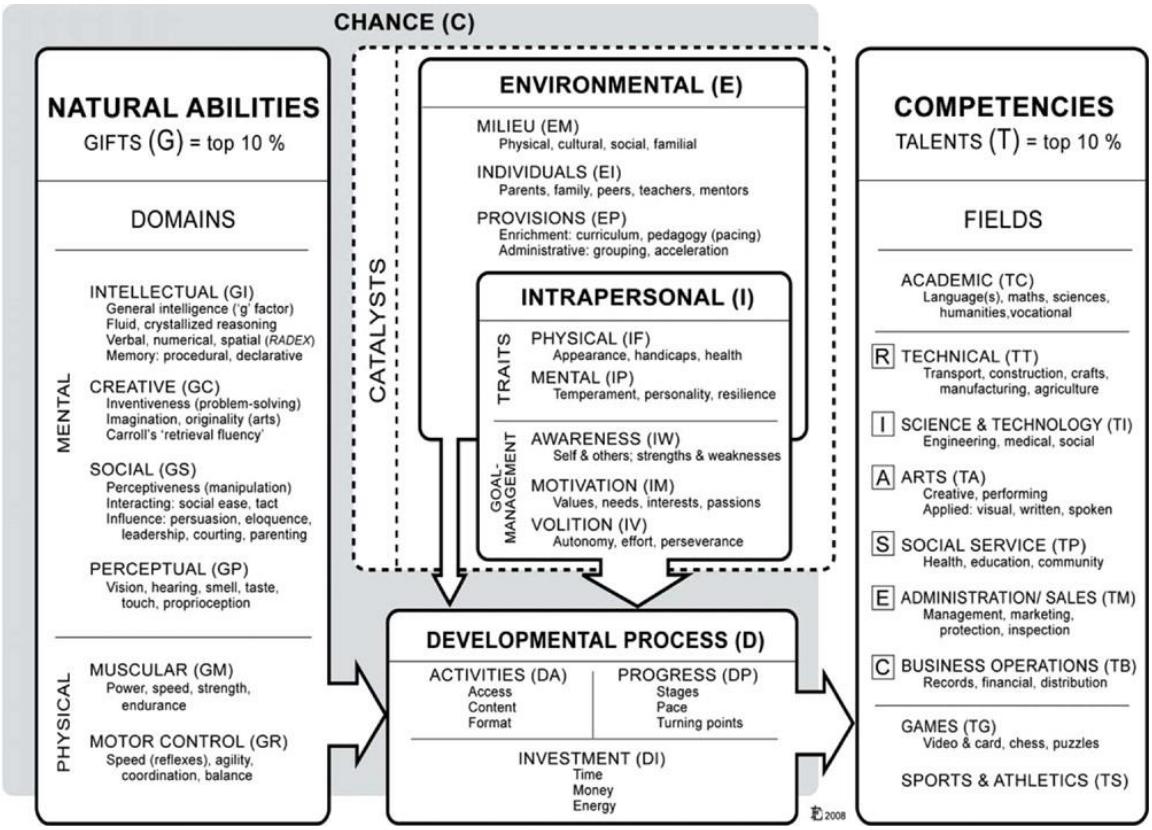


Figure 3.3 Gagné's Differentiated Model of Giftedness and Talent (DMGT 2.0; 2008).

The educational model employed by gifted schools in Kazakhstan, such as NIS and BIL, appears to align with Gagné's Differentiated Model of Giftedness and Talent 2.0 (DMGT 2.0). These institutions operate on a selective basis, admitting a small fraction of high-achieving students from the general population (Nazarbayev Intellectual Schools AEO, 2023a; Bilim-Innovation International Community Fund, 2024). The students in these schools demonstrate exceptional academic performance, often excelling in both national and international Educational Olympiads. This success can perhaps be attributed to the specialised educational opportunities and enhanced resources provided to these students, which facilitate the development of their innate abilities into demonstrated academic talent. The schools' function, identifying students with high potential and offering a conducive environment to cultivate that potential into high achievement, is consistent with the core principles of the DMGT 2.0 model.

The selection process for gifted schools in Kazakhstan, which identifies students with high natural abilities through testing and selects top performers, directly reflects Gagné's definition of giftedness as "untrained abilities that stand out among age peers." However, the geographical and financial constraints associated with these schools, which are primarily located in major cities, may prevent some students from accessing these opportunities. Within the Differentiated Model of Giftedness and Talent (DMGT), this limitation can be viewed as an aspect of "chance," in that a student's birthplace is outside their control. At the same time, it also reflects environmental factors, since the government has made deliberate policy choices to concentrate gifted schools in urban areas.

For the students who are able to attend these schools, the institutions themselves would appear to serve as significant environmental catalysts. Over a period of five to six years, these schools provide essential resources, advanced curricula, and experienced educators. This structured educational experience, which focuses on the systematic development of abilities in specific academic domains (e.g. physics-mathematics, chemistry-biology), is consistent with Gagné's emphasis on the systematic process required to transform giftedness into talent. The gifted schools' academic and extracurricular programmes align with the DMGT 2.0, as this is how students' natural aptitudes are cultivated into talents. By the time they graduate, students who began with high potential have had the opportunity to develop systematically honed skills in specialised fields, such as physics, mathematics, chemistry, and biology. Consequently, these graduates embody Gagné's concept of talent as individuals with outstanding developed abilities. While Gagné's DMGT 2.0 clarifies the distinction between giftedness and talent and identifies the catalysts that help transform

natural ability into developed competence, the model does not elaborate in depth on the broader ecological contexts in which these catalysts operate. To address this limitation, Bronfenbrenner's ecological systems theory offers a complementary perspective. By mapping the multiple layers of environmental influence, from immediate relationships with teachers and peers to wider cultural and societal forces, this framework provides a richer understanding of how talent development unfolds across different contexts and over time. Together, the DMGT 2.0 and Ecological Systems theory present a more holistic view of the dynamic interplay between innate potential and environmental support in shaping gifted students' developmental trajectories. The synergy of these two independent models will be presented in the final Chapter (p.212).

Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner's (1979) ecological systems theory provides a valuable framework for examining talent development by illustrating how an individual's abilities are shaped by a network of interconnected systems. These systems include various factors that directly or indirectly influence talent development over time. Originally developed to explain child development, applying this model within the context of higher education allows us to explore how environmental interactions promote students' talents and potential. In this context, **microsystems** represent the immediate relationships and interactions that influence a student's talent development. Daily interactions with teachers, peers, and mentors play a significant role, as these figures provide direct guidance, feedback, and encouragement, which can either foster or hinder the development of specific talents. For example, teachers who challenge students with advanced materials can stimulate critical thinking, while supportive peers create a motivational atmosphere conducive to learning and growth. **Mesosystems** involve the interconnections between these microsystems, such as when parents collaborate with coaches or academic advisors to support a student's talent development. Effective mesosystem interactions ensure that students receive consistent encouragement and support across different areas of their lives. For instance, a close partnership between parents and academic advisors could tailor a student's course selection or extracurricular activities to align with their strengths, thereby enhancing both academic and personal growth. One can argue that parents are less involved in university student's life as they are considered independent individuals. However, in some contexts, where parents are funding the student's tertiary education, parents may interact with the university personnel or teaching staff. For instance, in Kazakhstan some parents can direct their children in applying for certain programmes, due to state grant opportunities.

Exosystems encompass broader external influences that, while not directly involving the student, have indirect effects on their talent development. Examples include the university's policies on funding talent-based scholarships, the quality of campus facilities for specialised training (e.g., science labs or art studios), and the availability of community resources that support student learning. These elements may indirectly affect students by shaping the quality and accessibility of opportunities within their microsystems and mesosystems. At the level of the **macrosystem**, cultural beliefs, values, and socioeconomic factors also shape students' talent development. Societal attitudes towards fields like science, technology, arts, or humanities can influence a student's motivation to pursue particular disciplines. Societal values strongly influence parenting approaches within a child's immediate environment. For instance, cultures that champion individual success may lead parents to emphasise competitiveness and self-sufficiency in their children. In contrast, societies that prioritise group cohesion might encourage parents to raise children who value collective wellbeing over personal aspirations (Guy-Evans, 2025). In Kazakhstan, the societal emphasis on science, mathematics, and foreign languages, along with the high regard for gifted schools that focus on these subjects, reflects cultural values that prioritise academic excellence and intellectual achievement. This prioritisation influences the educational paths that are encouraged and valued within the society, steering students toward academic institutions over vocational ones. Conversely, vocational schools are seen as a less prestigious option, often chosen by those who may be viewed as less academically inclined or unwilling to pursue traditional schooling. The **chronosystem** encompasses changes and life transitions over time, including technological, societal, and policy shifts that impact talent development trajectories. For instance, advancements in digital learning and online resources over recent decades have broadened access to specialised knowledge, allowing students to cultivate their talents more independently and on a global scale. The chronosystem perspective also considers critical life transitions, such as the shift from secondary education to university, which can provide new opportunities or challenges that affect the trajectory of talent development. Below in Figure 3.4 is the illustration of Bronfenbrenner's Ecological Systems Theory is presented.

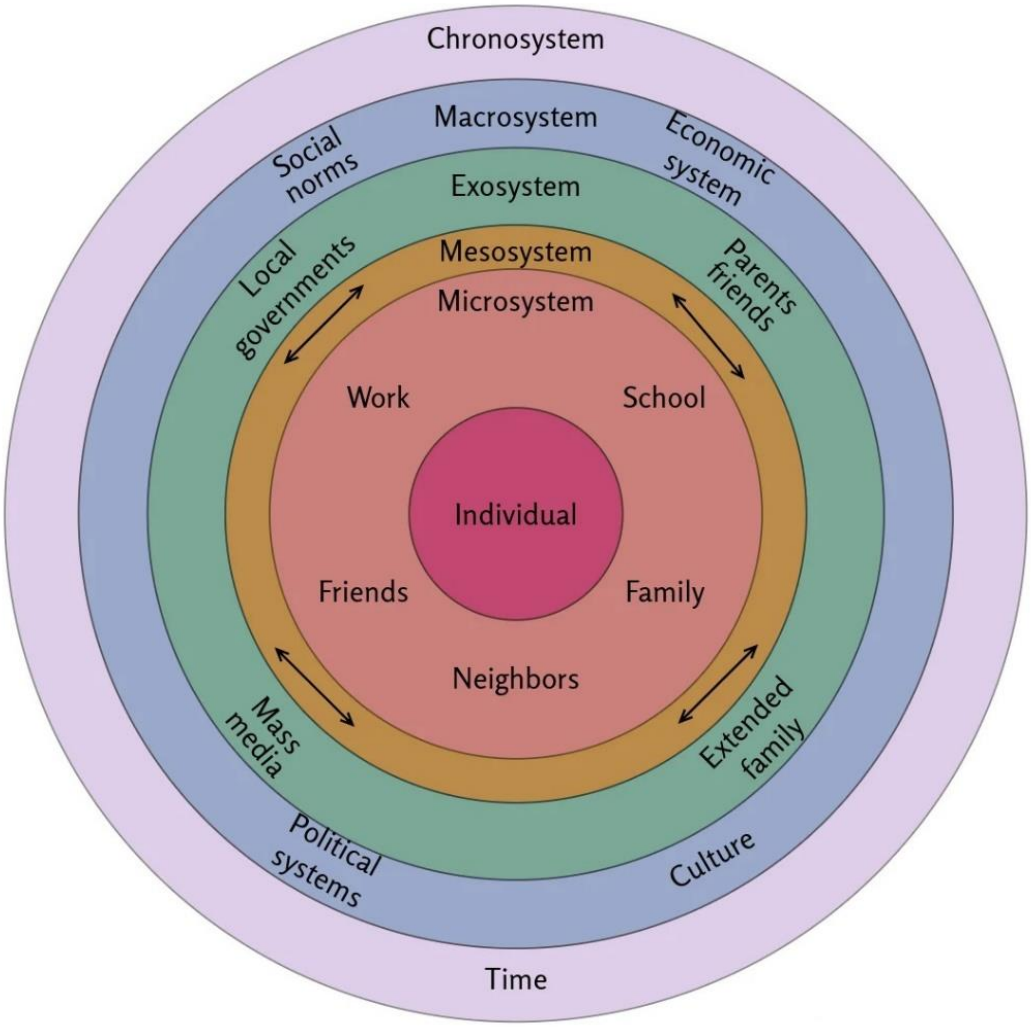


Figure 3.4 Bronfenbrenner's Ecological Systems Theory – adopted from SimplyPsychology (Guy-Evans, 2025)

Guy-Evans (2025) highlighted that the ecological systems theory faces limitations in empirical testing and in understanding mesosystem interactions, such as those between neighbourhoods and family. This makes it challenging to determine the direct impact of each system on development. Additionally, the theory may lead to assumptions that a lack of strong ecological support hinders development, even though many individuals thrive without consistently positive influences from these systems. Despite these limitations highlighted by Guy-Evans (2025), the ecological systems model offers a comprehensive framework to understand how a complex web of influences contributes to talent development in higher education. By examining each system's unique role, educators and policymakers could better tailor support structures to enhance students' talents and foster their long-term potential.

3.3.1 The Role of Parents in Talent Development

Within the context of talent development, parents assume an active and important role including the recognition of a child's innate abilities and their further development (Olszewski-Kubilius, 2021). Although parental involvement is generally less visible in higher education than in earlier stages of schooling, it remains relevant in certain contexts. In Kazakhstan, parents often continue to play an influential role in their children's educational decisions, including the choice of university, programme of study, and future career direction. This influence is frequently linked to students' financial reliance on their families for tuition fees and living costs. Consequently, parental expectations, values, and access to resources can continue to shape students' opportunities for talent development, even within higher education. For this reason, the role of parents is included in this discussion, as their involvement can remain an important factor in supporting or constraining talent development pathways. Research suggests, (See for example, Alkhawaldeh et al., 2023; Luo and Kiewra, 2020), they function as primary facilitators, shaping the developmental environment, providing targeted support, and mobilising resources necessary for the progression of natural aptitudes into refined and sustained competencies. According to Makkonen et al. (2022), to foster talent development in gifted school children, it's essential to have a combination of several factors: parental support, a peer group of motivated and gifted students, inspiring teachers, engaging lessons with interesting topics and experiments, and access to subject-related digital media.

Finn and Wright (2015) in their study on Finland education system stated that parents seeking more targeted opportunities for their gifted children often rely on external options, such as specialised music or arts schools, or push for specialised subjects within mainstream schools. This involvement from parents suggests a desire for change, aiming to provide their perceived 'gifted' children with broader opportunities for growth, supported by active participation from schools and teachers. As mentioned previously, Renzulli's (2011) three-ring theory defines gifted behaviour as the intersection of three key traits: above-average ability, creativity, and task commitment. Parents are crucial in fostering the latter two. Family relationships can significantly contribute to shaping creative individuals through "spending time in self-imposed, talent developing practices; preferring unconventional and independent thinking; developing coping skills for stress, and anxiety; and resolve emotional issues through creative work" (Olszewski-Kubilius 2018, p.129).

They can teach their child what to do in certain situations as well as how to think for themselves. However, Olszewski-Kubilius (2018), also highlighted that unconventional thinking is not always highly regarded by parents. Regarding task commitment, which refers to the ability to persevere and work diligently on a specific task, parents can potentially foster a strong work ethic in their children by encouraging them to persevere through deliberate practice and by teaching them resilience. This is only likely to be effective, however, if parents themselves possess, value, and actively promote these characteristics. The ability of parents to do this may be limited by their own personal struggles, such as a lack of resilience. Instead of letting a child quit when a task becomes difficult, they can provide emotional support and emphasise the importance of effort over innate ability. Similarly, Gagné's DMGT model highlights the role of developmental processes and environmental catalysts in transforming gifts into talents. Parents can serve as the primary environmental catalyst. Parental influence is crucial for a child's talent development, as it directly shapes the opportunities for a child to transition from innate ability to a polished skill set. This influence is contingent upon parents having access to both material resources, such as books, lessons, and equipment, and the social capital necessary to access relevant support networks. Furthermore, parents can be instrumental in cultivating crucial intrapersonal qualities such as motivation, willpower, and self-management, thereby equipping their children with the essential skills to navigate setbacks, manage time, and maintain a long-term vision for sustained talent development (Olszewski-Kubilius, 2018). The role of parental involvement in developing children's talents is widely recognised as pivotal in academic and professional research (Subotnik et al., 2019). Research suggests that a supportive home environment is crucial for high achievement. As Bloom's (1985) research on top achievers across various fields highlights, reaching high levels of accomplishment requires a supportive family and school environment, in addition to appropriate training. This parental influence is significant because parents' values and behaviours shape their children's values, attitudes, and learning-related dispositions, such as persistence and mindset (Olszewski-Kubilius et al., 2017; Subotnik et al., 2019). However, not all children have access to such support; some parents, due to socioeconomic, cultural, or personal circumstances, may be unable to provide the encouragement or resources needed to nurture potential talent. In these cases, it becomes important that schools, mentors, and wider community networks step forward in bridging the gap and ensuring that children's abilities are recognised and developed.

Parents can also provide critical resources, create learning opportunities, and build supportive social networks (Lee, 2016; Olszewski-Kubilius, 2016). Studies on educational

Olympiad students further emphasise this point. Research on mathematics, physics, and chemistry Olympiad students by Nokelainen et al. (2007) found that parental support and encouragement are a strong foundation for future academic productivity. Similarly, Wu and Chen (2001) found that families of physics and chemistry Olympiad students were often of high socioeconomic status and provided their children with intellectual resources. This is further supported by a study on Korean students by Cho and Campbell (2010), which revealed that parents of scientifically gifted students offered intellectual resources throughout their children's schooling, with parental involvement having the most significant influence on gifted students' science achievement in high school. This influence aligns with longstanding debates regarding whether giftedness is primarily genetic or environmental. Gardner and Hatch (1989) argue that intelligence is shaped through an interaction between inherited abilities and environmental conditions. This interactional perspective is reflected in Gagné's DMGT Model, which conceptualises giftedness as natural abilities that require environmental catalysts to be transformed into systematically developed talents. Within this framework, parental support, access to intellectual resources, and educational opportunities function as key environmental catalysts in the talent development process. Bronfenbrenner's ecological systems theory further situates parents within the child's immediate microsystem, highlighting their central role in shaping everyday learning experiences and access to resources. While individuals may inherit certain abilities, these models emphasise that the realisation of gifted potential depends on sustained interactions between the individual and their environment. Consequently, parents' capacity to provide specialised programmes, tutors, and enrichment opportunities becomes fundamental in facilitating talent development (de Souza Fleith et al., 2024), while also drawing attention to issues of equity and the constraints imposed by socioeconomic disadvantage.

My own experiences directly reflect these findings. My parents' encouragement of extracurricular activities, particularly in music, provided formative experiences. Attending Dombyra classes, a traditional Kazakh instrument, for three years and participating in school orchestras and choirs illustrate the profound impact of parental and pedagogical guidance on nurturing individual interests. A pivotal moment in my educational journey was the transition to a specialised boarding school for AGS, such as the Kazakh Turkish Lyceums (KTL). These institutions were known for their rigorous academic standards. In 2003, these KTL schools were primarily funded by private sponsors from Turkey, before switching under the control of the MoES of Kazakhstan (Sultanmuratov et al., 2020). However, the private sponsors' funding was not always enough. During that time,

students' parental contributions were essential to sustain the schools' operational efficacy, exemplifying the extensive nature of parental financial investment in a child's development. My parents' commitment to my education through these institutions highlights the essential role of family support in personal and academic growth. However, a significant flaw in talent identification and development is the disparity in access to resources due to financial constraints. Not every family can afford to invest in their children's education to the same extent. This means that many gifted individuals from financially disadvantaged backgrounds may not receive the necessary resources to reach their full potential. In the United States, research indicates (See for example, Snellman et al., 2014; Bennett, Lutz and Jayaram, 2012) a significant disparity in students' access to and engagement in extracurricular and talent-development activities outside of school. This gap is primarily attributed to variations in the financial and time resources available to students and their families (Subotnik et al., 2017). According to Bennet et al. (2012, p.148), "participating in elite activities often requires substantial financial capital." Both research and personal experience confirm that parental involvement can lay a strong foundation on which individual potential can cultivate, but this foundation is not equally accessible to all. A lack of supportive attitudes and frequent disruptions within the home environment, engagement with unmotivated peers, demanding academic workloads, and participation in time-intensive extracurricular activities can act as significant hindrances in talent development (Makkonen, Lavonen and Tirri, 2022) and can result in children being overlooked. Both research and personal experience highlight the extensive role parents play in fostering talent.

3.4 Teaching Gifted Students

3.4.1 Teacher Professional Development Programmes to Support the Gifted Student

The school environment is essential in promoting academic attainment for gifted students. In gifted-focused schools, such as the BIL schools studied by Zhussipbek (2019, p.144), a supportive and positive environment is seen as a "key aspect in students' academic achievement". His research highlights the critical role of peer friendships in academic achievement and suggests this is fostered by an environment offering both strong academic instruction and essential social-emotional support. Schools can be vital spaces for recognising and nurturing students' potential giftedness. Okoye (2013) highlights that teachers in these environments play an essential role in identifying gifted students and providing timely interventions that foster their abilities. Makkonen et al. (2022, p.530) also suggest that teachers are "the most influential people in developing talent." Research seems to suggest that gifted education requires well-trained teachers who are prepared to meet the needs of AGS. For example, Renzulli (1975) argues that a high-quality gifted programme depends heavily on the recruitment and training of skilled teachers. Much like coaches in fields such as music, sports, and the arts, teachers trained specifically for gifted education can provide targeted support that can lead to student success. Vreys et al. (2018) suggest that professional training for preschool and primary school teachers can have a significant impact on the development of gifted students. Makkonen et al. (2022) also argue that teachers were found to be the most influential people in the process of talent development among gifted students. However, many teachers lack specialised training, which can lead to issues such as overlooking the needs of gifted students or, in some cases, viewing students' creative expressions as disruptive (Mholo, 2016). This lack of training can result in gifted students feeling bored and under-challenged in class, potentially leading them to underperform or become disengaged (Cross, 2014; Reis and McCoach, 2000). Teacher discomfort and a lack of confidence in handling gifted students may also cause classroom management challenges. Shore and Kaizer (1989) argue that teachers need not feel threatened if students outperform them in specific areas of knowledge; rather, embracing students' strengths can enrich the learning environment. Studies globally suggest that this deficit in teacher education preparation is widespread. In Belgium, for instance, 95% of surveyed teachers reported receiving little to no training on gifted education during their undergraduate studies (Vreys et al., 2018). Similar concerns have

been raised by Fraser-Seeto et al. (2013), stating that training for preservice educators in gifted and talented education in Australia has repeatedly been deemed insufficient. Tapper (2017) warns that without specialised training, teacher practice with gifted children may be shaped by stereotypes and misconceptions, avoiding evidence-based research. This raises concerns about whether pre-service and in-service teachers are sufficiently equipped to support gifted students, who require an intellectually challenging curriculum, appropriate pacing, and opportunities to collaborate with peers of similar abilities (Rogers, 2007). According to Gallagher et al. (1997) it is a huge challenge for teachers working in a mixed ability classes. To address such challenges, some educational systems have introduced specialised courses on gifted education targeted for in-service teachers. For example, the Nazarbayev Intellectual Schools (NIS) system in Kazakhstan, in collaboration with international experts from Johns Hopkins University's Centre for Talented Youth, has developed a course focused on educating gifted students. This course covers methods for identifying giftedness, lesson planning based on individual student interests and needs and differentiated instruction. Additionally, the course includes models for fostering critical thinking and creativity, as well as assessment techniques (Nazarbayev Intellectual Schools, n.d.). The course is accessible to NIS teachers. However, teachers from other schools and educational institutions can get access to the same course via Academia.kz platform, though it requires purchase (Academia.kz, n.d.). Similarly, the Chinese University of Hong Kong, launched a Programme for Gifted and Talented (PGT). It aimed to foster gifted education and support gifted and talented senior secondary school students by offering university-based programmes and services for school students, as well as for their parents, schools and teachers (Chan, Chan and Sun, 2020). The programme works in three major areas: Direct Services for Gifted and Talented Students; Research and Resource Development; and Professional Services for Teachers and Parents. Developing such initiatives within universities is perhaps a significant step in raising awareness about giftedness and supporting both teachers and parents in engaging with gifted students, as well as conducting research in this area. The literature and current practices suggest, teacher training programmes are essential in providing firsthand support for gifted students. However, it was unclear how these programmes influence the participants in their higher education pathways. Even though it was not explicitly mentioned whether PGT or similar programmes exist for gifted university students, this PGT programme attracts university students, who participated in the PGT programme as school students and to take roles of teacher assistants and mentors for newly joining programme participants. Thus, it

could be argued that PGT programme implicitly contributes to potential leadership enhancement among the university students linked to the programme.

3.4.2 Teaching Gifted Students at Universities

University teaching staff, much like schoolteachers, often face the challenge of engaging both “average” students and AGS within the same classroom setting (Robinson, 1997). While AGS may quickly grasp complex materials and demonstrate deep insight, they often need additional challenges to remain engaged. Research indicates that specialised teaching methods tailored to AGS not only enhances their critical thinking and motivation but also boosts their self-confidence and independence (Rogers, 2007; Vreys et al., 2018; Al-Khayat et al., 2017). To meet AGS needs, teaching staff can first identify these students by observing traits such as high performance in examinations, advanced questioning, and strong analytical skills. However, if not sufficiently challenged, AGS may also exhibit signs of boredom, such neglecting assignments, skipping classes, or disengaging from regular coursework, even as they perform well on exams (Besnoy, Jolly and Manning, 2021; Cross, 2014; Reis and McCoach, 2000). Once identified, teaching staff can support AGS by creating a “gifted-friendly” environment, where student “feels valued and comfortable, free to develop socially and emotionally, as well as intellectually” (Kennedy, 1995, p.232), encouraging them to explore ideas openly, welcoming intellectual risks, and responding thoughtfully to off-target comments (Robinson, 1997). This environment also includes protecting AGS from teasing by peers and fostering a shared enthusiasm for intellectual discovery. Detailed feedback on even top-performing work helps AGS further hone their skills, while creative and critical thinking strategies, which are favoured by AGS (Al-Khayat et al., 2017), keep them engaged and motivated. Additionally, teaching staff can connect AGS with peers through study groups or discussions, providing a collaborative space for advanced learning. Other supportive approaches include “curriculum compacting” (Reis and Renzulli, 1995), which replaces mastered content with challenging projects or independent reading. Regular mentoring also plays a crucial role in helping AGS set high academic and career goals and connect with resources and advanced study options. Research also suggests that when AGS receive targeted support and specialised instruction during higher education, they are more likely to pursue advanced degrees and careers in science, technology, engineering, and mathematics (STEM) fields (Sahin et al., 2015). The implementation of specialised pedagogies for AGS appears to represent a vital strategy for fostering their academic and personal growth, in higher education institutions.

3.5 Leadership Skills Development of AGS

3.5.1 The Importance of Leadership Skills Development

It is argued that some gifted students have strong potential to grow into leaders as adults (Lee et al., 2020). Sternberg's Active Concerned Citizenship and Ethical Leadership (ACCEL) model (2017, 2018, 2020) provides a foundational framework by underscoring the ethical and societal roles gifted individuals should play. According to Sternberg (2020), true giftedness extends beyond cognitive ability or high results in test scores; it should encompass a drive to solve real-world problems and contribute positively to society. In the ACCEL model, gifted individuals are characterised by analytical thinking, creativity, common sense, wisdom, ethics, and passion, suggesting a holistic perspective where societal impact and personal values are central to giftedness. This emphasis on multidimensional qualities aligns with an increasing recognition of ethical leadership as a vital aspect of gifted education. Sternberg's model aligns closely with the Kazakhstani government's vision for gifted education, where students of any socioeconomic and ethnic background are able to compete for a place to study in gifted schools. Kazakhstan's specialised schools for gifted students aim to enhance cognitive capabilities of the younger generation and to develop future leaders for the nation. NIS Development Strategy for 2035 state their mission as: "To strive to build intellectual capacity nationally and globally by combining the best of national and international experience" (AEO Nazarbayev Intellectual School, 2024). Gifted schools already prioritise students with strong problem-solving skills and advanced cognitive abilities, providing a foundation for leadership development. In these settings, gifted students are given opportunities to cultivate skills like critical thinking, planning, and organisation, essential for effective leadership.

Empirical evidence also supports the link between giftedness and leadership. Peairs et al. (2019) found that gifted seventh-grade students were more likely to be identified as leaders than nongifted youth and displayed a primarily prosocial leadership style. Further, a study by Lee and Olszewski-Kubilius (2006) highlighted that AGS who engaged in leadership development programmes demonstrated notable growth in leadership skills. Lee and Olszewski-Kubilius's (2006) findings indicated that gifted students who participated in accelerative or enrichment leadership programmes in university-based gifted institutes displayed leadership abilities well above the normative levels, showcasing the effectiveness of structured programmes in nurturing leadership in gifted youth.

3.5.2 Conceptualising Leadership: Models and Approaches

Before considering how leadership is developed in AGS, it is necessary to clarify what "leadership" means. MacBeath (2003) describes *leadership* as ambiguous and argues it may have different interpretations, depending on who is using it. More broadly, the literature identifies a wide range of overlapping and sometimes contradictory leadership models. Conceptions include individual-centred understandings such as *heroic*, *charismatic*, and *authoritarian leadership*, which locate leadership capacity within the singular qualities of exceptional individuals who save the day in moments of crisis (MacBeath, 2003). While intuitively appealing, these models have been widely critiqued: charismatic leadership in particular risks "fostering dependency and suspending individual and collective judgement among followers" (MacBeath, 2003, p.2).

In contrast, a second cluster of models include *distributed*, *dispersed*, *shared*, or *collaborative* leadership. Distributed leadership, most closely associated with Spillane's work (2006), reframes leadership as "the co-performance of leadership and the reciprocal interdependencies" (Spillane (2006) cited in Harris, 2013, p.548) between formal and informal leaders across an organisation, rather than the exclusive domain of those in designated leadership roles. In other words, it views leadership as something that is co-created and shared among people, while recognising that both formally appointed leaders and informal leaders can contribute to that leadership. Bush (2012) similarly argues that effective teams "enhance leadership density" (p.649) by spreading tasks and responsibilities across multiple individuals, producing a greater collective impact than any single leader, however talented, could achieve alone. Importantly, this does not mean that formal leaders are no longer needed. Instead, Harris (2013) argues that distributed leadership works best when formal leaders actively support and encourage it. They play an important role in creating the culture and structures that allow leadership responsibilities to be shared across the organisation.

However, this shift in thinking about leadership has also been questioned. Harris (2013) argues that the term *distributed leadership* is often used to describe very different approaches. Distributed leadership has been criticised for creating the appearance of teacher empowerment while actually giving teachers more work and responsibility without giving them meaningful authority to change the system (Harris, 2013). Similarly, Hargreaves and Fink (2009, cited in Harris, 2013) warn that distributed leadership can end up being just another way of implementing top-down policies rather than genuinely

empowering staff. This distinction is particularly important in higher education, where teamwork and collaborative initiatives are common, but real decision-making authority, trust, and recognition are not always shared. For this study, this distinction provides an important lens for examining whether university leadership opportunities genuinely develop AGS students' decision-making capacity, having a voice, making choices, and taking initiative or primarily involve participation within existing institutional structures, and following instructions only.

In higher education, an increasing number of studies have explored what makes institutional leadership effective. For example, Amjad et al. (2025) compared emerging leaders in universities in Pakistan and Bangladesh and identified five key areas of effective leadership: having a clear vision, making good use of resources, building a sense of community, empowering teachers, and implementing policies and plans. Among these, *empowering teachers* was the weakest area in both countries, even though teachers play a vital role in the success of universities (Amjad et al., 2025). This finding is particularly relevant to countries such as Kazakhstan, where higher education leadership is still developing as the wider education system continues to change. Currently, the higher education system in Kazakhstan is facing similar issues. To empower teachers and faculty members and involving them more in higher education leadership, a government programme "500 Scholars" was established in 2021 (Bolashaq Centre for International Programs, n.d.). The aim of this fellowship programme is to support academics within higher education, giving opportunities to university academics and leadership staff to attend a fellowship in a foreign university for up to 12 months. Upon their return these fellows can influence the transformation of the local higher education.

These perspectives provide a useful basis for examining leadership as a relational and collective process shaped by institutional structures, opportunities for participation, and the distribution of responsibility, particularly in relation to the development of academically gifted students (AGS).

3.5.3 AGS Leadership Skills Development at HEI

Leadership is a significant topic across various fields, particularly when linked to gifted students, who are expected to be vital resources for societal progress. To realise this aim it appears that supporting and nurturing their potential is essential, as leadership skills are critical to success in both professional and academic fields. Leadership is often regarded as

a characteristic of giftedness, and its development is a global priority among educators, aiming to create leaders aware of national and global challenges (Lee and Olszewski-Kubilius, 2016). Youth leadership is defined as "the ability to envision a goal or needed change, to take initiative or action to achieve the goal, to take responsibility for outcomes, and to work well with, relate to, and communicate effectively with others" (Edelman et al., 2004, p.4). Gifted students frequently aspire to leadership roles, and it seems their talents often align with their leadership ambitions. According to Lee et al. (2020), gifted students admire leaders who exhibit high ethical standards, strong integrity, and effective conflict resolution skills. These findings highlight the importance of fostering shared goals and moral values through collaborative, communicative, and problem-solving activities. Additionally, research suggests cultural contexts also shape leadership outcomes. For instance, studies comparing South Korean and American gifted students revealed significant differences which were influenced by cultural dimensions (Lee et al., 2020). Leadership skills can be cultivated through deliberate training and opportunities, enabling gifted students to become future leaders who contribute to societal development (Bean et al., 2010). Providing access to opportunities, such as leading groups and promoting lifelong learning within school environments, has been shown to enhance these skills and support adolescent development into adulthood (Dagyar et al., 2022). Research also highlights the positive impact of higher education on university students' leadership skills development. For example, Uaikhanova et al. (2022) found that a university leadership programme significantly improved leadership qualities and reduced negative emotions in students. The study collected data via a survey with 196 students and included comparison of an experiment group with a control group. Importantly, because the study was conducted with the general student population, the findings may suggest that effective leadership programmes can benefit all students who demonstrate leadership potential, not solely those classified as gifted. Dugan and Komives (2010) noted that socio-cultural conversations with peers, faculty mentoring, and community service participation are key influences on students' capacities for socially responsible leadership. However, being academically gifted does not automatically ensure success as a leader (Lee and Olszewski-Kubilius, 2016). Personal factors, such as interpersonal skills and personality type, may hinder leadership aspirations, and the effect of higher education on future leaders remains underexplored in Kazakhstan. Yakavets (2014) observed that in Kazakhstan, AGS are often encouraged to pursue leadership from a young age. Al Ali and Abunasser (2022) emphasised the need for special programmes to develop gifted students' leadership abilities. They suggested that leadership traits can be identified, nurtured, and expanded

across cultural contexts, particularly in Middle Eastern and Asian settings. In university life, leadership abilities often emerge through collaboration, shared goals, and social influence, providing a strong foundation for future leadership roles. As discussed earlier, if AGS and other students inclined to leadership are provided with support on multiple levels (e.g. co-curricular, extracurricular activities), educational institutions can cultivate the next generation of ethical, skilled, and impactful leaders.

3.5.4 Impact of Extracurricular Activities on Leadership Skills Development

Extracurricular activities are widely recognised for the diverse benefits they offer to participants, though their prominence and type can vary by context. In the United States, for instance, a strong emphasis is placed on sports and athletics, which are seen as a means to build character, develop soft skills, and cultivate a sense of community among students from varied religious and socioeconomic backgrounds (O'Hanlon, 1980). This emphasis is further incentivised by the potential for athletic scholarships to universities. Astin (1999) found that students involved in extracurricular activities are generally less likely to drop out, with participation in sports, especially intercollegiate athletics, having a particularly strong positive impact on student persistence. In contrast, schools in Kazakhstan tend to prioritise curricular and co-curricular programmes, with less attention given to sports. Regardless of the specific context, it appears that extracurricular activities provide participants with a broad range of advantages. Eccles et al. (2003) state that social connections developed through involvement in extracurricular activities are linked to improved educational outcomes, as well as the promotion of wellbeing, healthy decision-making, and prosocial conduct. Structured extracurricular activities, such as chess clubs, debate teams, school bands, and student councils, are suggested as particularly instrumental in fostering leadership, promoting initiative, and enhancing the emotional and social development of adolescents (Snellman et al., 2014). For students, the advantages of participating in extracurricular activities appear to be amplified when they take on leadership positions. According to Kuhn and Weinberger (2005), individuals who serve as team captains or club leaders during their schooling are more likely to pursue and succeed in managerial careers and to earn higher salaries within those roles. The positive impacts of participating in extracurricular activities may continue to be seen long after high school. A study by McFarland and Thomas (2006) suggest that participation in school extracurricular activities is correlated with a variety of long-term positive outcomes, including higher

educational and occupational achievement, increased political and civic engagement in adulthood, and improved mental and physical health later in life. On the one hand, it could be assumed that attending extracurricular activities may affect how well a person does in their career and life, including their ability to move up the social and economic ladder. On the other hand, however, it is difficult to tell whether the extracurricular activities are directly causing the success, because other factors such as personal traits could be playing a direct significant role in achieving success. For example, students possessing traits such as extroversion, ambition, curiosity, or determination may be more inclined to participate in extracurricular activities. Concurrently, these same inherent characteristics are often positively correlated with success in the labour market, suggesting that pre-existing personal traits may play a significant role in both participation and subsequent success (Snellman et al., 2014).

3.6 Chapter Conclusion

In this chapter literature on giftedness was explored, including how diverse it can be depending on the perspective; elitism and issues of elite education, how it evolved from gifted schools being a place for people with upper class status to renowned international schools affordable to rich people only. Additionally, this explored the relation of elite education to gifted education in the context of Kazakhstan, for instance, the project of Nazarbayev Intellectual Schools and elite school graduates transition to higher education was mentioned. The highly selective nature of gifted schools in Kazakhstan was reviewed. On one hand, they have earned huge credit for education excellence, on the other hand, they are criticised in society for their elitist features and huge investments from public funds. People and the government have high expectations from these AGS. This may result in pressure, stress and wellbeing issues among students, further putting at risk the potential of AGS being lost to society and failing to meet the government's goal, to cultivate future leaders of the country. These risks may be overcome if the higher education institutions' learning environment acknowledge and develop AGS' strengths, by considering appropriate support, opportunities and curriculum. Literature on teacher training and professional development with an emphasis on teaching gifted students was also reviewed.

The scarcity of research on AGS in higher education settings was highlighted (See for example, Mendaglio, 2012; Robinson, 1997; Abeysekera, 2014). It revealed the importance of investigating this area, to raise awareness of conditions needed for AGS in higher education. From this perspective, I wanted to explore whether universities in Kazakhstan are providing convenient support for AGS. Major concerns include the following:

(1) the application of contemporary methods and pedagogy with the required degree of academic challenge;

(2) the provision of leadership skills development in AGS within curricular programmes; and

(3) leadership skills development in AGS with extracurricular activities within the university.

The discussion of leadership in this chapter highlighted a shift from viewing leadership as an individual attribute towards understanding it as a process that can be developed through participation, relationships and institutional opportunities. While individual qualities such as confidence, initiative and vision remain relevant, the literature (see for example Dugan and Komives, 2010; Shomotova and Ibrahim, 2025) suggests that leadership development is also shaped by the extent to which institutions create opportunities for students to take responsibility, collaborate with others and exercise agency. This perspective is particularly relevant to AGS, whose leadership development may not necessarily require separate leadership programmes but can emerge through curricular, co-curricular and extracurricular experiences within the university.

Robinson (1997) stated that supporting gifted students as they enter young adulthood by encouraging them to aim for excellence, equipping them with essential knowledge and skills, and providing opportunities to realise their potential can be beneficial for everyone. With the absence of a suitable environment and support in universities, AGS might be at risk of failing to meet the set expectations of the government, society and their personal goals. The problem examined in this study is about academically gifted school graduates in higher education institution. This study aims to explore the role of one HEI in supporting AGS during their undergraduate studies. To determine the effectiveness of the work, it is critical to learn about the AGS' and other stakeholders' experiences in a university setting. Therefore, I decided to utilise a qualitative case study in my research, which is described in detail in the following Methodology Chapter.

Chapter 4 METHODOLOGY

4.1 Introduction

This chapter presents the methodology employed in the study to explore the experiences of academically gifted students (AGS) in a higher education institution (HEI). It provides an overview of the research topic and discusses the importance of researching the support services and accommodations designed explicitly for AGS in HEI. The support services and accommodations highlighted in the research include co-curricular programmes, academic advising, office hours, extracurricular activities, which influence the students' university experience. This chapter also outlines the research objectives and questions that guided the study. The research objective of this study was to explore and understand the support mechanisms, specifically pedagogies and cultivation of leadership skills, with support provided by the university for AGS. The exploration of these areas aimed to provide insights into how the institution responded to the unique needs and experiences of AGS, particularly looking into the areas of pedagogies and leadership skills development. The objective implied a comprehensive examination of various dimensions, including understanding the current pedagogical practices within the programme curriculums, identifying successful initiatives and areas where improvements could be made. These research objectives guided my study in collecting relevant data, analysing it, and drawing conclusions to contribute to the existing knowledge on this topic and potentially inform policy and/or practice in the higher education institution. The specific objectives were as follows:

- To investigate the pedagogies implemented by HEI for AGS.
- To explore how leadership skills development is embedded to the curriculum.
- To examine the strategies employed by HEI to develop leadership skills among AGS through extracurricular involvements.

As I proceed further with the research design and methodology, for the purpose of reminding the reader, I am restating the Three Research Questions that guided the study:

1. How does HEI support academically gifted students through pedagogical interventions?

2. How does HEI integrate leadership development among academically gifted students through their academic curriculum?

3. How do out-of-class opportunities support the leadership skills development of academically gifted students in HEI?

This methodology chapter sets out the approaches taken to address the research objectives. It provides a detailed explanation of the qualitative research strategy chosen for this study, which was critical for reflecting on the complex and varied perspectives of AGS. In this Chapter, I discuss the Research Design, Research Questions, Ethical Considerations, protecting the participants' rights and privacy, and Research Methodology employed. Furthermore, the data collection methods and procedures are outlined, which enabled relevant data collection to address the research questions.

4.2 Research Design

The methodology development process presented considerable challenges since it required a comprehensive examination and knowledge of many philosophical notions to choose the most appropriate research strategy. A researcher requires “a solid knowledge of the philosophical principles and theoretical assumptions that underpin their subject, since these factors define the study design and assure its integrity and validity” (Kivunja and Kuyini, 2017, p.26). This understanding of disciplinary principles and embedded assumptions is required for effective interpretation in social research (Moon and Blackman, 2014); hence it is required for all researchers.

My study was designed to explore gifted school graduates’ experiences in one university in Kazakhstan, aiming to identify effective practices and areas for improvement in support services for AGS. The research also examined the involvement of various stakeholders, including teaching staff and executive board members, in facilitating the higher education experiences of AGS. The study did not begin with any predetermined hypotheses regarding the level of support for AGS. Instead, the objective was to gather primary data directly from individuals within their HEI setting, as AGS both experience and influence the phenomenon under investigation. Given the stated aim, the study issue aligns closely with the tenets of the interpretivist paradigm. The primary purpose of the interpretivist paradigm is to comprehend “the subjective world of human experience” (Cohen, Manion, and Morrison, 2018, p.19). This paradigm operates on the premise that knowledge and meaning are socially constructed (Bogdan and Biklen, 1998). Punch (2005) argued that the researcher develops knowledge socially as an outcome of one’s personal experience of actual life within the natural contexts under investigation. Kivunja and Kuyini state that interpretivism is based on a “subjectivist epistemology (concerned about what is knowledge and how we acquire knowledge), a relativist ontology (what one considers the reality), and a balanced axiology” (2017, p.33). It anticipates that the study results will reflect the researcher’s values, attempting to offer a balanced account of the findings. Subjectivist epistemology implies that the researcher creates meaning from their findings by their own thinking and cognitive analysis of data collected through the interactions with participants. A rigorous examination of data stemming from the experiences of AGS contributed to the generation of novel insights concerning university support services. Engaging in conversations with AGS and other relevant stakeholders facilitated an insightful grasp of their perspectives and encounters within the university setting. This

approach facilitated the exploration of research inquiries pertaining to pedagogical practices, the cultivation of leadership skills both in and out of class environments within the context of the university. From an epistemological standpoint, Slevitch (2011, p.77) highlighted that:

> An epistemological perspective of the qualitative researcher can only offer his or her interpretation [of the collected data] (based on their values, personal interests, and purposes) of the interpretations of others (based on their social and cultural values, personal interests, and purposes) (Slevitch, 2011, p. 77).

In other words, it is understood that data may not always be an exact representation of reality. Instead, it is influenced by the researcher and the research participants' perceptions and interpretations. Gathering rich and thick data about the interpretations of the AGS' experiences in a university and their responses to situations aligned this research with an interpretative epistemological approach (Creswell, 2013). Relativist ontology suggests that you believe the situation under study has multiple realities, and that these realities can be examined and given meaning or transformed through human interactions between the researcher and the research participants (Chalmers, Manley and Wasserman, 2005). After a thorough consideration of the philosophical literature, I determined that the interpretivist paradigm resonates with my mindset and allowed me to comprehend and interpret the phenomenon under investigation in my study. Upon a thorough review of the literature, a careful consideration of the RQs addressed, extensive discussions with my supervisors, and limited resources available, I determined to employ a qualitative case study method for my project.

The theoretical frameworks introduced in Chapter Three also relate to this study's design, though in different ways. Gagné's (2008) Differentiated Model of Giftedness and Talent (DMGT) informed how "academically gifted student" was interpreted for sampling purposes from the outset: participants were recruited on the basis of their prior identification as gifted through admission to NIS or BIL schools (reflecting Gagné's "gifts"), with the study then examining their subsequent development within a university setting (reflecting the transition toward "talent"). Beyond informing sampling, the DMGT also provided an analytical lens in Chapters Five (See section 5.2 and 5.5.1) and Six (See section 6.3) for interpreting the university's role in students' talent development. Specifically, it was used to examine whether institutional policies, pedagogical practices, leadership opportunities, and extracurricular provision functioned as *environmental catalysts* that supported or constrained the transformation of students' natural abilities into

developed talent. The framework also helped interpret how different institutional stakeholders understood giftedness, revealing inconsistencies between policy discourse and participants' perceptions (See section 5.2). Talent development was more strongly supported through differentiated learning opportunities and extracurricular experiences, which provided authentic contexts for developing leadership, soft skills, and professional competencies (See section 5.5.1). In this way, the DMGT enabled the analysis to move beyond describing institutional support to evaluating how effectively the university created the conditions necessary for gifted students' continued development.

Bronfenbrenner's (1979) Ecological Systems Theory was subsequently adopted as the framework for organising and interpreting the resulting multi-level data, since the three stakeholder groups happened to correspond to different ecological levels of influence on AGS's university experience: students' accounts speak primarily to the microsystem, teaching staff accounts to the mesosystem, and executive board members and policy documents to the exosystem and macrosystem. This mapping is developed further in the analysis in Chapters Five and Six, and is brought together with Gagné's framework in the integrated model proposed in Chapter Seven (see Figure 7.1 at p.211). In the following section I discuss the methods employed in the study.

4.3 Qualitative Case Study Research

Qualitative research is frequently employed by social science disciplines. It aims to gather in-depth knowledge about human activity and factors influencing these activities. In my study I explored AGS' experiences within the university and gathered data from their first-hand experiences in the higher education (HE) environment, to address my Research Questions. I aimed to find how a HEI facilitates the development of these students by meeting their needs. Qualitative researchers acknowledge that there is not a fixed reality, but rather, numerous realities that are shaped by individuals within specific social and cultural settings (Cohen, Manion, and Morrison, 2018). Hence, reality can be understood in various ways, each of which might be distinct and specific to individual encounters and circumstances.

The choice of research method in qualitative studies is often guided by the topic under investigation. According to Creswell (2013), there are five primary qualitative approaches: narrative research, phenomenology, grounded theory, case study, and ethnography. For my research, which examines the experiences of AGS at a university, the case study approach was particularly appropriate, because this method aligns well with the objectives of my study, to explore the experiences of AGS in one HEI in Kazakhstan. Yin (2018, p.15) defined a case study as an empirical method that "investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between phenomenon and context are not clearly evident". Further it is highlighted that a case study "relies on multiple sources of evidence, with data needing to converge in a triangulating fashion." (2018, p.15) According to Yin, two principal criteria justify the use of the case study method. First is the importance of studying the phenomenon in its real-world setting. The case study method is particularly valuable when the phenomenon and the context are bounded with external factors. Understanding how the environment is influencing the contemporary issues, makes the case study a helpful tool for research in social sciences. The second criterion is that the case study method is best suited for research questions to understand the process, reasons, or mechanisms behind a phenomenon. These "how" and "why" questions require a detailed, in-depth exploration that goes beyond statistical analysis or description. A qualitative case study approach is used in this study to examine how university-level support for academically gifted students is enacted within a specific institutional context, allowing for detailed analysis of pedagogical practices and leadership development opportunities.

According to Yin (2018, p.47), applying formal case study research designs “can make the case stronger and easier to do.” He suggested four types of designs for case studies: Single case study designs, which have a holistic approach; single case study embedded designs, in other words with multiple units of analysis in a single case; multiple case designs where every case has a unique context; and lastly, multiple-case designs with embedded unit of analysis in every case. I chose to utilise a single case study, by selecting a single higher education institution as the focus of the study. The data were collected through interviews, focus groups, and document analysis to gain insights into the programmes, curricula, support services, and policies that are designed to support AGS. A case study approach enabled me to analyse the role of higher education institutions from multiple angles, considering factors such as admission processes, curriculum modifications, enrichment programmes, mentoring or guidance initiatives, and other interventions aimed at meeting the unique needs of AGS. Through this approach, a comprehensive and context-specific understanding of the role that a higher education institution can play in the development of AGS was possible. This approach also enabled me to explore the challenges, successes, and potential areas for improvement within the institution. Yin (2018, p.18) pointed out “lack of rigour” and being unable to “provide basis for scientific generalisation” are raised as leading concerns of case studies for researchers. However, according to Lincoln and Guba (1985), the term “transferable” is more apt than “generalisable” when considering the outcomes of case studies, as a single observation can hold significance for various contexts.

4.4 Ethical Considerations

Cavan (1977, p.810 cited in Cohen, Manion and Morrison, 2018, p.112) defined ethics as "a matter of principled sensitivity to the rights of others". It is essential for any research to consider ethical issues throughout the study. The ethical aspects of my work were guided by the ethical guidance and the completion of the ethics form and its approval by the College Research Ethics Committee of the University of Glasgow. One of the essential elements of the ethics form is to identify and prevent potential risks for participants. In this study the pool of participant students was small compared to the general student population studying in a HEI (see section 4.6.6 Recruitment of Participants). Therefore, it could be possible to identify the participants if too many indicators were provided, such as the university name, the programme studied, age, gender, and origin. However, the following steps were considered to mitigate these risks:

Anonymity of participants: all participants names were encrypted by pseudonyms and characters, which were only known to the researcher.

Fair use of indicators: Specific identification characteristics were provided with caution, to eliminate the possibility of identification of institution under investigation.

Secure storage: Initially, I planned to go to the research site for data collection. However, due to family circumstances and lack of financial resources it was decided in consultation with my supervisors that interviews for data collection could proceed online using video conferencing tools, such as Zoom. All data, transcripts, recordings and documents related to the study participants were kept securely on the University of Glasgow OneDrive, which was only accessible by the researcher. Participants of the study were provided with participant information sheets and signed consent forms were collected. Further confidentiality of their responses and anonymity of their identity was guaranteed by the researcher.

Voluntary participation: The study participation was completely voluntary. If a participant felt uncomfortable answering certain questions or they felt overwhelmed, s/he could skip the question by telling the researcher. If the participant wanted to stop the interview at any point, or take a break for some reason, s/he could do so. It was also possible for the participant to request to postpone the interview to a later date. The researcher did not have any influence on external factors that could cause pressure; or force the participants to be

involved in the current study. Conversely, many people, directly or indirectly related to gifted schools and AGS in HEIs, claimed the research study to be relevant, and they could relate it to their own experiences. Similarly, many participants showed their genuine interest in the topic, therefore decided to participate in this study.

4.5 Trustworthiness

The trustworthiness and quality of a study is influenced by the rigorous data collection procedures used (Kallio, Pietila, Johnson and Kangasniemi, 2016) and influences the study results (Gibbs et al. 2007). Guba (1990) present various techniques for ensuring the rigour of qualitative research, which they term as the concept of trustworthiness. In qualitative case study research, the concept of trustworthiness is pivotal to ensure the findings are credible, accurate, and reliable. As qualitative research often deals with complex, real-world contexts, it is essential to establish these aspects to ensure that the study accurately represents the phenomena under investigation. Trustworthiness can be ensured in qualitative case studies via the following: **Credibility** concerns ensuring that the findings are believable and convincing. One of the ways to achieve credibility is using a triangulation technique, which uses multiple sources of data and methods in confirming the findings and ensuring the in-depth understanding of the case. In my study I interviewed different groups of participants, including a focus group with students, individual interviews with university teachers and executive board members. Additionally, I conducted document analysis of key university policies (see section 4.6.4 Document Analysis) where the study is conducted. The possible limitation of the study is that it focused on only one HEI. This limits the outcomes of the study, and these outcomes. However, in contrast to generalisability in quantitative research, **transferability** in qualitative research is attained by offering in-depth, detailed accounts of the case, enabling others to assess whether the findings might apply to their own situations. To enable transferability, I provided a detailed, comprehensive account of the research setting, participants, sampling strategy, and context, to allow readers to make informed judgments about whether the findings can be applied to their own specific situation. **Dependability** ensures that the research process is consistent and could be repeated, if followed by the same path. In my study dependability was achieved by a reviewing technique, as my study was under review of my supervisors. From **confirmability** and **reflexivity** standpoints, there exists a potential drawback in my chosen case study approach, as significant data might be unintentionally overlooked or omitted during the analysis and interpretation of the gathered information because of the potential biases or assumptions. Consequently, my understanding might not perfectly mirror the perspectives held by the research participants. However, I see my prior experience as an advantage for such case. On one side, my prior involvement as a student in a gifted school, my teaching experiences within such educational networks, and my interactions with AGS in a higher education context have

potentially introduced a certain degree of bias. Conversely, this background has provided me with an enhanced comprehension of AGS subculture, thereby enabling me to portray their viewpoints in a way that would not be possible for a researcher with no experience of gifted education in Kazakhstan To ensure the data interpretations are grounded in the data itself I engaged in triangulation of the data to mitigate any biases as far as possible.

4.6 Data Collection Method

As the case study requires in-depth data from different sources for triangulation purposes, I decided to use multiple sources of data through conducting interviews, focus groups and document analysis, to strengthen the trustworthiness of the findings and enable a comprehensive understanding of AGS experience in HEI. Due to the timeline of my study, I had to keep the sampling small. The following sections discuss employing the interview and focus group methods and the document analysis.

4.6.1 Interview

In the context of qualitative case study research, interviews serve as a crucial method for data collection. Yin (2018, p.118) emphasises that "interviews provide valuable explanations of key events and insights reflecting participants' perspectives." An interview consists of a conversation between the researcher and the study participants and is reliant on the interviewee's willingness to engage. During this dialogue, the researcher asks a series of prepared questions related to the subject of interest, aiming for a conversational tone that encourages probing inquiries to clarify and deepen understanding (Stake, 2010). This flexibility allows participants to express their perspectives freely, address concerns, and adapt the flow of the conversation.

Semi-structured interviews were designed to be interactive, fostering engagement and dialogue between the interviewer and the interviewee. They were guided by a set of pre-established open-ended questions while remaining adaptable to the conversation's dynamics (DiCicco-Bloom and Crabtree, 2006). This format enabled me to follow up on participants' responses, with the aim of fostering a rich exchange of ideas. According to Cohen et al. (2018), interviews are a "flexible tool for data collection," leveraging multiple sensory channels. While Gillham (2000) highlights the "richness of communication" inherent in face-to-face interviews, where participants often share more confidential information than they would in anonymous formats. Stake (2010) notes that the purpose of interviews is to obtain unique insights and interpretations from interviewees. The semi-structured format, while allowing for rich dialogue, also poses challenges in balancing the collection of relevant data against potentially extraneous information. Therefore, careful formulation of interview questions was essential. In this study of AGS' experiences in higher education, the semi-structured interview approach proved particularly beneficial. It

accommodated shifts in discussion and I invited participants to elaborate, thereby enabling in-depth exploration of sensitive topics (Galletta and Cross, 2013; Naz, Gulab, and Aslam, 2022). Given advancements in technology and geographical considerations, the online interviews emerged as a practical choice, offering enhanced flexibility for all involved. The decision to employ a semi-structured format ensured adherence to the study's core themes while allowing for a conversational flow. The following section presents the interview questions tailored to address pedagogy, leadership skills development in class activities, and leadership skills development through extracurricular involvement, aligning with the research objectives.

4.6.2 Interview Questions

This section sets out the interview questions for the semi-structured interviews with participants. These questions emerged from the literature and address the research questions of this study. Based on research question I identified three main themes of the study.

Area of investigation 1: Pedagogical interventions and instruction

What types of enrichment programmes and advanced courses are offered by HEIs to cater to the specific learning needs of academically gifted students?

This question was designed for students, teachers and executive board members. Students may not be aware of teaching approaches, however having attended classes and knowing how classes and lectures are 'organised', and their overall experience made their responses valuable.

How do HEIs tailor teaching methodologies and classroom environments to provide intellectually stimulating experiences for academically gifted students?

This question was again designed primarily for teaching staff.

How does the university teaching staff modify instructional strategies and teaching methodologies to meet the advanced learning needs of academically gifted students and foster their intellectual growth?

This question was most relevant for teaching staff, in terms of requirements for teachers and grounded in policies. However, hearing from students' experiences and their perception on this was also an important point to consider. Because the students' experiences could show whether the university policies were functional and worked as expected.

Area of investigation 2: Leadership skills development within curriculum

How is leadership development integrated into the academic curriculum for academically gifted students at HEIs?

This question explored how the Higher Education Institution incorporate leadership development elements within the regular academic curriculum for AGS, examining courses, modules, or specialised programmes that nurture leadership skills. The question was relevant to all participant groups.

How do academically gifted students perceive the impact of curriculum on their leadership development at HEIs?

This question focused on gathering the perspectives of AGS regarding the effectiveness and influence of curriculum on their leadership growth and personal development within Higher Education Institutions.

Area of investigation 3: Leadership skills development through extracurricular activities

What extracurricular activities or programmes are available to academically gifted students at HEIs to foster their leadership abilities?

This question investigated the extracurricular opportunities and initiatives offered by HEIs specifically designed to enhance leadership skills among AGS outside the formal academic setting. The question was addressed to both students and executive board members.

How do academically gifted students perceive the impact of extracurricular activities on their leadership development at HEIs?

This question focused on gathering the perspectives of AGS regarding the effectiveness and influence of extracurricular activities on their leadership growth and personal development within the Higher Education Institution.

The case study methodology was strengthened by the incorporation of diverse data collection instruments. In addition to conducting interviews, the inclusion of a focus group and document policy analysis of the institution under the investigation significantly enhanced the depth and richness of the collected data.

4.6.3 Focus Group

Another data collection method I utilised was focus groups. Although interviews typically involve a one-on-one interaction, they can also extend to encompass a researcher engaging with a focused group (Runeson and Höst, 2009). A focus group is a format of an interview where the researcher engages in a conversation with a small group of individuals, typically sharing common attributes, to explore a certain subject (Wellington, 2015). The aim in undertaking a focus group was to enable a smooth conversation flow, as AGS students elaborated on their experiences. A focus group exhibits certain distinctions from a group interview. According to Wellington (2015, p.242), it "sets up a situation where the synergy of the group, the interaction of its members, adds value over and above the depth or insight of either an interview or a survey". When participants from a specific group are assembled in a conducive setting, they can foster a more effective dialogue and create interesting ideas through their interactions. Utilising a focus group approach provided numerous advantages for my research, particularly by enabling the observation of extensive participant interaction on the research topic within a relatively short timeframe. (Morgan, 1997). The number of AGS in each group ranged from 4 to 5 students, allowing everyone to speak out and be heard by other participants (see Section 4.6.6 Recruitment of Participants). I believe, managing the topic's focus would have been challenging if I had dealt with a larger group of participants. The focus group method was additionally effective in facilitating the involvement of more introverted participants. As noted by Kitzinger (1995, p. 299), focus group interviews "encourage participation from people reluctant to be interviewed on their own or [who] feel like they have nothing to say." Consequently, the focus group setting was intended to create a supportive environment that encouraged participants to openly share their perspectives on their higher education experiences.

4.6.4 Document Analysis

Within qualitative research, interviews serve as the primary approach for gathering data, often complemented by field notes, participant observation, and analysis of documents. (Yin, 2018). However, evidence for a case study can be obtained from many other sources, such as archival records, observations, physical artifacts, and documentation. To gather more evidence on my case study work, I also undertook an analysis of the university policy documents displayed in the university system website.

When conducting my analysis, I applied a purposive sampling strategy to select relevant documents from the rules and regulations section of the university system website. All the documents selected for analysis were primary sources. This approach was necessary as the majority of the documents lacked relevance to my specific research objectives. Most of the policy documents had versions in 3 languages, including English. The availability of the documents in English was convenient for the research, which eliminated the translation and interpretation issues. However, there were some documents only in Kazakh or Russian languages. For these documents I made my own interpretation of the documents for my study. The rules and regulations section of the university website contained five categories: Academic (56 documents), Administrative (61 documents), Science (25 documents), Social (6 documents), and Archive (19 documents). From these, I selected the following 16 documents for closer investigation.:

- **Academic:** 9 documents
- **Administrative:** 3 documents
- **Social:** 4 documents

The selection of the 16 documents was guided by clearly defined inclusion and exclusion criteria aligned with the aims of the case study. Documents were included if they:

(a) had direct relevance to the research questions;

(b) related explicitly to institutional policies, regulations, or practices affecting students/AGS and staff within the university;

(c) were current and formally approved institutional documents; and

(d) provided insight into governance, access, support mechanisms, or decision-making processes relevant to the case.

Documents were excluded if they were outdated, duplicated to include more recent versions, focused primarily on research and scientific output rather than institutional practice, or lacked relevance to the focus of the study. Based on these criteria, documents from the Science category were excluded as they fell outside the scope of the research objectives, while documents in the Archive category were omitted due to their outdated nature. The final selection of 16 documents was therefore purposive and strategic, ensuring that each document contributed meaningful and relevant evidence to the case study. For convenience of using the documents I downloaded the digital versions of them and securely stored them in University OneDrive in a Data Collection folder. The final list of documents for my analysis was based on their direct relevance and value to the study.

• ACADEMIC POLICY OF THE UNIVERISTY
• REGULATIONS ON THE PROGRAMME ACADEMIC MOBILITY OF THE UNIVERSITY
• ADMISSIONS POLICY OF THE UNIVERSITY
• ASSESSMENT POLICY OF THE UNIVERSITY
• REGULATIONS OF STRUCTURAL DIVISION OF THE INSTITUTION EXTENSION SCHOOL CENTER FOR ADVANCED TRAINING AND SKILLS DEVELOPMENT
• POLICY FOR TEACHING THE PROGRAMME OF ADDITIONAL EDUCATION (MINOR) IN THE UNIVERSITY
• REASONABLE ADJUSTMENT FOR STUDENTS WITH DISABILITY AND SPECIAL LEARNING NEEDS POLICY OF THE UNIVERSITY

• REGULATIONS ON THE PREPARATION AND EXECUTION OF THE SYLLABUS AT THE UNIVERSITY
• POLICY OF THE UNIVERSITY ON THE PROGRAMME “ZHAS MAMAN”
• REGULATION ON REMUNERATION OF EMPLOYEES OF THE UNIVERSITY
• REGULATION OF THE STRUCTURAL UNIT: DEPARTMENT OF SOCIAL AFFAIRS
• REGULATION ON TRAINING AND PROFESSIONAL DEVELOPMENT OF THE EMPLOYEES AT THE UNIVERSITY
• GUIDELINES OF THE ADVISORY SERVICE AT THE UNIVERSITY
• EQUALITY, DIVERSITY AND INCLUSIVITY POLICY AT THE UNIVERSITY
• REGULATION ON SCHOLARSHIP AND GRANT PROGRAMS FOR STUNDENTS
• REGULATION ON STUDENT SELF-GOVERNMENT AT THE UNIVERSITY

Table 3 University Documents Analysed

Yin (2018) suggests that while working with documentation, researchers must take a great care. The use of documentation in case study research is that it can corroborate and augment the evidence from other sources, making it more trustworthy. However, overreliance on documentation is also criticised, because the casual researcher may assume that all sorts of documents contain complete truth (Yin, 2018). The document analysis followed a systematic and iterative process. Each document was read several times to gain familiarity with its content, purpose, and context within the institutional framework. During the initial reading, attention was paid to the stated aims of the policies, key terminology, and references to students, staff roles, responsibilities, and support mechanisms. In subsequent readings, relevant sections were highlighted and coded manually according to themes derived from the research questions. These themes included, for example, admission and selection, teachers’ roles, student support structures, equality

and inclusivity, governance, and institutional responsibilities. The findings from the document analysis were compared with evidence from interviews and other data sources to support triangulation and enhance the credibility of the case study, in line with Yin's (2018) recommendations.

4.6.5 Sampling Strategy

Participants for the study were drawn exclusively from a single university located in Kazakhstan. The rationale behind the selection of this particular university was based on a deliberate process aimed at refining the pool of Higher Education Institution (HEI) to a specific criterion of eligibility. To accomplish this, a strategic decision was made to identify a HEI characterised by a notably high enrolment rate of AGS, who constituted the primary focus of the research. This effort was supported by the careful analysis of the data, specifically drawing upon the NIS annual report for the year 2021 (NIS annual report, 2022), as well as a report provided by the Bilim Innovation Fund. The NIS annual report is publicly available through its official website. The report from the Bilim Innovation Fund was acquired through correspondence via email with a General College Counsellor for the Fund, G. Nurgozhayev in 2022, due to this information not being accessible in a public domain. The detailed examination of the two documents resulted in the development of two separate and distinct lists of universities, as illustrated in Figures 4.1 and 4.2 below.

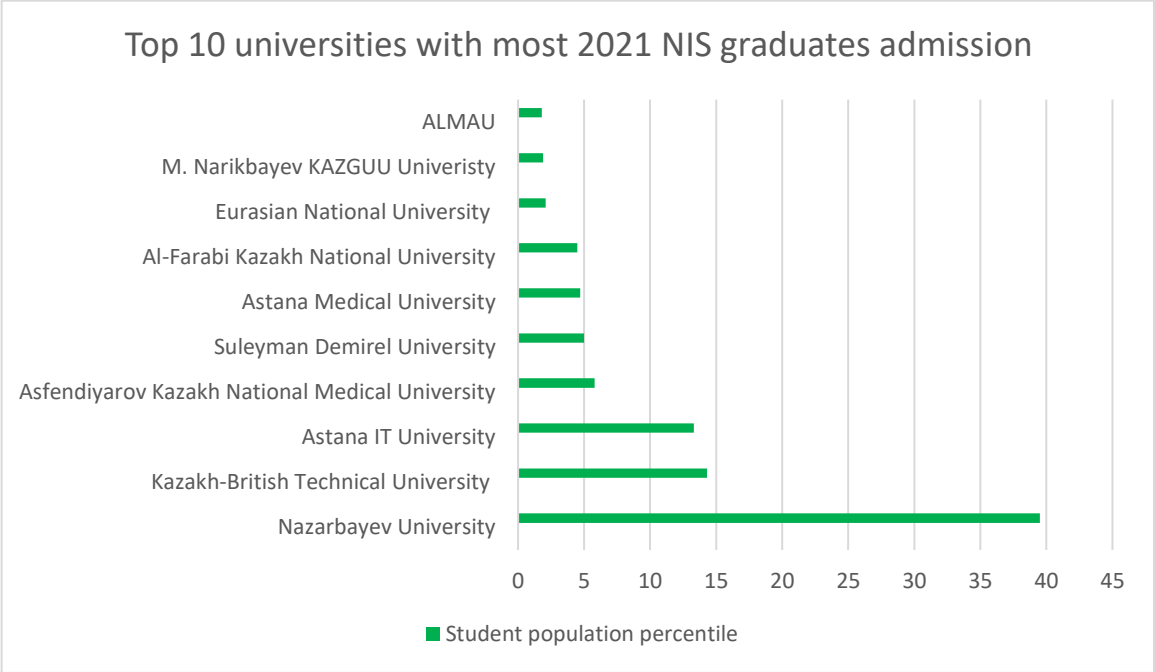


Figure 4.1 The top 10 universities with NIS graduates' admission in 2021. The list was adapted from the AEO "NIS" Annual Report, 2021

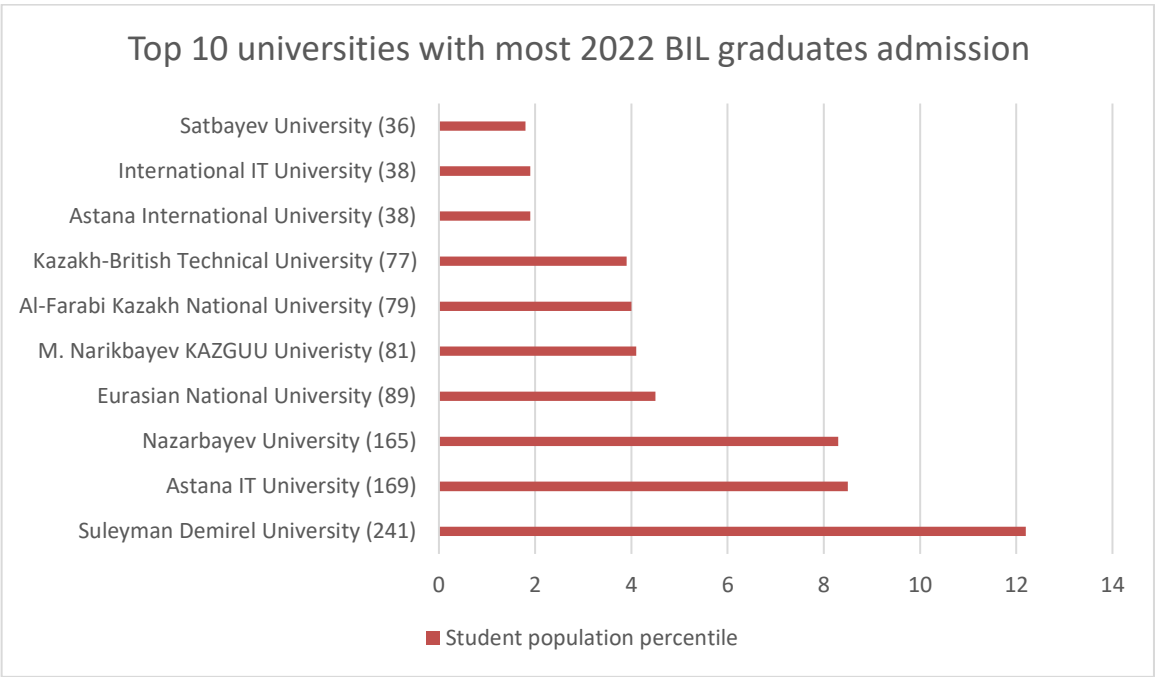


Figure 4.2 The top 10 universities with BIL graduates' admission in 2022. The list was created with the data provided by the Bilim Innovation International Community Fund (Nurgozhayev, 2022)

According to the NIS report, in 2021, 74.4% of NIS graduates (a total of 1716 students) enrolled in Kazakhstani universities, with 90% of them gaining admission to the institutions listed in Figure 1. Similarly, in 2022, 79.16% of BIL graduates (a total of 1558 students) pursued higher education within Kazakhstan, with 51.4% of them attending universities mentioned in Figure 2. The data presented below revealed that 7 out of the 10 universities listed were common destinations for both NIS and BIL graduates seeking further education (Annual report of NIS for 2021, 2022; Nurgozhayev, 2022). Notably, a significant number of these universities featured within the Top 1000 in the QS World University Rankings (El.kz, 2023), signifying a clear inclination of the majority of AGS to seek education in prominent Kazakhstani institutions.

For the purposes of this study, the chosen institution was not disclosed and referred as ‘Private University’. This Private University (n.d.) holds a prominent position within the national university rankings, including the Atameken rankings, which assess factors such as average job search duration, alumni employment rates, average salary, tuition fees, and accreditation (Atameken, 2018). Private University offers a spectrum of programmes encompassing social sciences, education, engineering, and other disciplines. Statistical evidence underscores its status as a preferred option among AGS, notably in fields such as Computer Science, STEM, and Foreign Languages, as indicated by the statistical data (Private University Statistical Data, 2022). I chose to employ purposive heterogeneous sampling in my study. This method is common in qualitative research and is valuable when studying a specific subgroup or a unique phenomenon (Palinkas et al., 2015). In purposive sampling, the researcher’s expertise is central to selecting "information-rich" participants who can provide the most relevant and in-depth insights into a specific phenomenon (Patton, 2014). Due to the nature of my study, instead of selecting participants randomly, I carefully selected individuals with a gifted school background, particularly from NIS and BIL schools, as exploring their experiences were relevant to my study and research questions. Participants were intentionally selected to capture a wide spectrum of perspectives by including students from various academic programmes, different years of study, and a mix of genders. The sole criterion for inclusion was that participants were graduates of the BIL and NIS schools. With the University’s assistance, I was able to reach out to gifted school graduates, requesting them to participate in the study. As mentioned earlier in section 4.3 Qualitative Case Study Research, my case was a single-case design with a single unit of analysis. Even though I had different groups of participants, they all were part of one single case with a holistic focus on AGS. As discussed, in Section 4.2, this stakeholder group was later understood, through Bronfenbrenner’s (1979) Ecological

Systems Theory, to represent the [mesosystem/exosystem] (see p.63-64) level of influence on AGS's university experience. The participant groups were as follows:

(1) gifted school graduates, AGS who were then pursuing their undergraduate academic degrees

(2) university teaching staff, faculty members

(3) executive board members of the University.

Although the interviewing process can be time-consuming, collecting data from a smaller sample of key representatives is acceptable (Gillham, 2000). I planned to have 4 focus groups with 5 students in each focus group. However, due to no responses after the first communication, and no shows without prior notice the student participant number dropped slightly. Similarly, invitations were sent using the mail list of all teaching staff on my behalf by the university representatives. The total number of teachers who were sent the invitation was unknown to me. I received 9 responses from university teaching staff interested in participating in the research. However, the final participant number dropped to 5 teachers. Finally, the executive board members were sent a separate invitation directly from me, as their contact details were available online on the university website. In total I sent 14 invitations for executive board members, with 3 confirming the participation for an individual semi-structured interview.

4.6.6 Recruitment of Participants

Recruiting student participants progressed as follows. The University granted me with written permission to conduct my research with their students and staff, providing I receive ethical approval to conduct the research from the University of Glasgow. Soon after receiving my ethical approval, I contacted the Quality Assurance department and Student Service Centre, indicating that I have permission to conduct my research and asked for their assistance in sending my research participation invitation to the selected group of students. The file with student emails consisted of 91 first year, 190 second year, 284 third year, 334 fourth year students, totalling in 899 student who graduated from NIS and BIL schools. The Quality Assurance department confirmed that they sent the invitation email to 895 students in total. However, as the University do not distinguish students as gifted or non-gifted, I acknowledge the gifted school graduates as gifted for the purpose of my

study. Below in Figure 4.3 you will find the step-by-step procedures in data collection process.

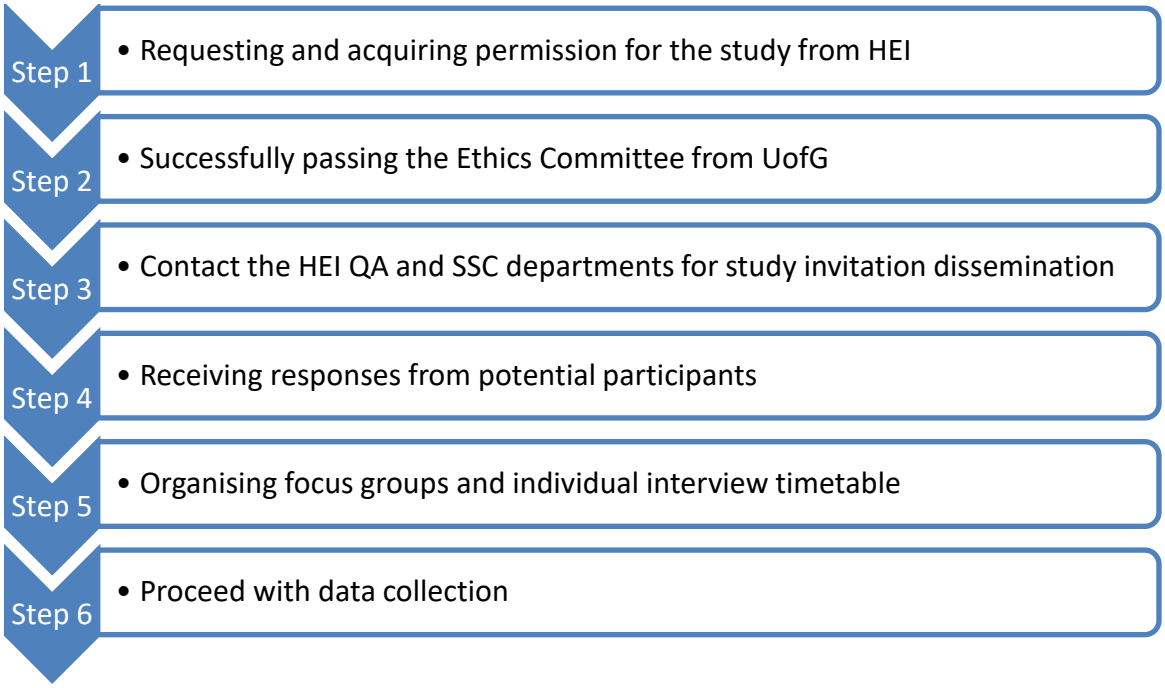


Figure 4.3 Illustration of data collection steps from participant recruitment to data collection

Participant group 1: Academically gifted students

Initially, I contemplated the exclusion of first-year students under the assumption that their limited Higher Education Institution (HEI) experience might yield fewer valuable contributions to the collected data as they would only have engaged in their university studies for a relatively short period of time at the data collection point. However, a subsequent decision was made to extend participation opportunities to all AGS, irrespective of their academic year, recognising that first-year students could contribute to the diversity of the participant cohort. Another perspective would be that students who transitioned from a gifted school to university may be in the most advantageous position to compare their experiences as an AGS. Since they progressed from one advanced learning environment (a gifted school) to another demanding setting (university), they have a unique perspective to reflect on and contrast their experiences in both educational contexts. An essential consideration with first year AGS pertained to their potential age, with some possibly being under 18 years old. This scenario would necessitate parental consent for their involvement, given that individuals below the age of 18 lack legal adulthood status in

Kazakhstan, which entails specific restrictions and necessitates parental authorisation for certain activities. To circumvent the involvement of parents in the data collection process, a resolution was reached to limit participation to AGS aged 18 and above.

My research invitation contained brief explanation of the study and its purposes, followed by a link for registration to participate in the study. As soon as the required number of students registered, the link was deactivated. Those who expressed interest were contacted separately with further details of how the study would be conducted. To avoid sending the invitation to all students, it was decided that the University would filter the message to all students who graduated from BIL and NIS schools. Additionally, from an ethical perspective it was decided that the University would send the participation invitation on behalf of the researcher. According to the Quality Assurance department's email, my invitation was sent to 895 selected students via MailerLite platform. No other filters such as programme of study, year of study, age, gender, or region were impacted. As a result of the email invitation, 26 responses were received in total. The hoped target for the study was 30 students. Because I was planning to conduct 4 focus groups (FG), with 5-6 students in each FG. The extra 6-10 students were to cover unexpected circumstances and individual interviews. Three students were eliminated because of not being eligible candidates due to their age being under 18 and graduating from a school other than NIS or BIL. This left me with 23 eligible candidates, 13 from NIS school and 10 from BIL school. The sample provided a mixed population of students from different programmes, study years, and gender, as indicated in Figure 4.4 below.

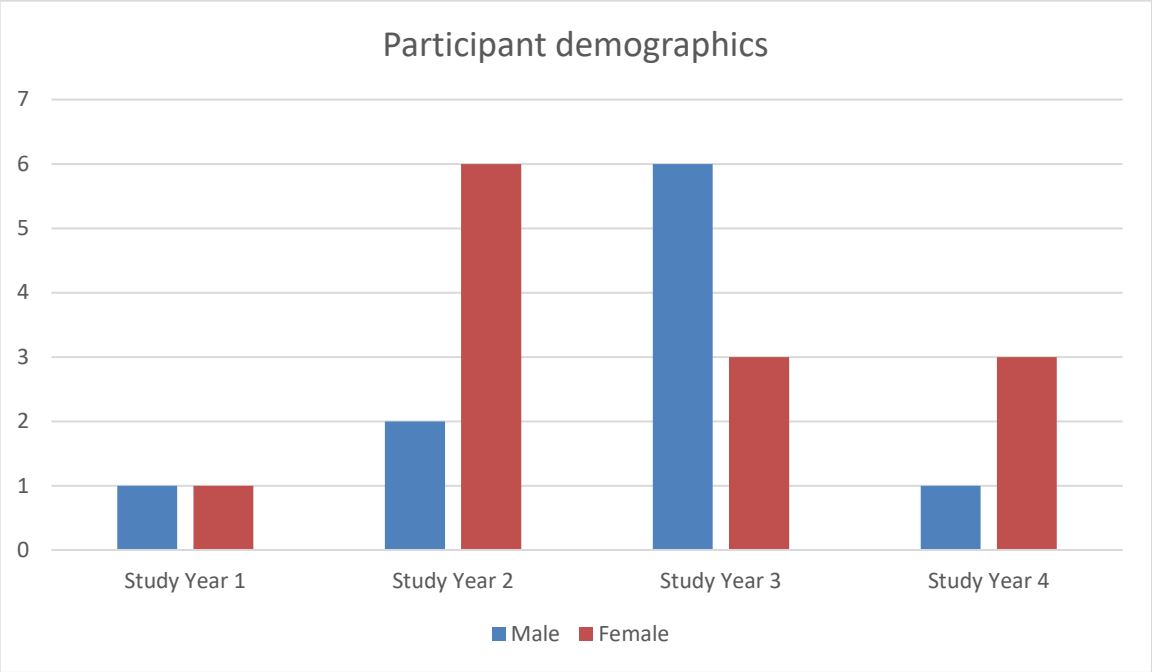


Figure 4.4 Illustration of participant demographics

To use time efficiently, I communicated with them to discuss further steps of the research and their role. I sent an email with brief description of my project, further explaining to them what to expect and how we would move forward. The email also contained information about the ethical dimensions of the research with Consent Form, Participant Information Sheet and Privacy Notice documents being attached. I explicitly stated that Consent Forms must be signed and sent to me before we proceeded with focus groups and/or interviews. Following that a suitable time to conduct the focus group and the semi-structured interviews were identified by mutual agreement. As the interviews were held online, participants could choose a space comfortable to themselves. The recording of the interview and how it would be utilised was initially presented in the participant information sheet which can be found in Appendix D of the thesis. In addition to that, it was also briefly discussed with the participants, and this was followed by them granting their consent for the recording.

The data collected in this study was managed with great care and stored securely to protect the confidentiality and privacy of all participants. Personal information was kept on a secure Microsoft OneDrive provided by the University of Glasgow, which was accessible only to the researcher and supervisors. During interviews, participants were addressed by their real names for clarity, but once the data was transcribed, pseudonyms were used to maintain anonymity. All data was stored in this secure online system, following the

university's strict data protection guidelines. After the project was completed, all personal data was permanently removed from the storage, and any printed documents containing personal information were shredded to prevent any unauthorised access. This comprehensive process ensured that the data remained safe and confidential throughout the entire study. To ensure a diverse population in the focus groups I divided the students into 4 separate groups and started to arrange a time for the focus group session. It was a challenging task to achieve, as the students had different schedules and commitments. As the focus groups and interviews were held online, the time difference of five hours between the UK and Kazakhstan also added some inconveniences. The schedule for the focus group sessions was build prioritising the participants convenience. However, even then, some participants did not respond promptly to indicate if they could attend the focus group session. Four participants did not show up to the focus groups and six did not communicate beyond the first communication resulting in a total of 13 participants in 4 focus groups. In the focus groups, the researcher and participants prioritised using English for communication. However, I informed the participants about the possibility to switch into Kazakh or Russian language if they had difficulty expressing their thought in English. Nine students were proficient in English, whereas four were hesitant to use English and preferred Russian and Kazakh language during communication.

Overall, after the first two focus group sessions, I realised that the number of questions that I had prepared was too many for a 1-hour session. Participants required more time to respond to all the questions, which led to the extension of the session for additional 1 hour. Upon successful completion of focus groups and interviews, participants were sent appreciation coffee credits for their dedicated time in the research. With each focus group I intended to spend 1 hour. However, due to intense discussions and size of the focus groups, it went over the planned time. Below in Table 4 time spent for each focus group is presented.

Focus Groups	Spent time
Focus Group 1	1 hour 48 minutes
Focus Group 2	2 hours 21 minutes
Focus Group 3	2 hours 11 minutes
Focus Group 4	2 hour and 9 minutes

Table 4 Time spent for each Focus Group

During the focus group discussions all participants were informed at the end of the first hour, that they could leave the session if they had other planned commitments. 3 students requested to leave after 1 hour of the session. 9 students voluntarily agreed to carry on with the focus group session. I hoped the participants would discuss within their group with minimal researcher involvement. However, I had to facilitate the group by giving turns to each participant. As I was conducting the data collection fully online via Zoom, to make the focus groups and interviews more convenient to the participants, I prepared the questions on slides and shared them on the screen, so that participants could read the question, in case they misheard the questions posed by the me. I also indicated that if they struggled to understand the question, they could ask the me to paraphrase the question for them.

My second data collection group was academic teaching staff. Again, as in the case of students, I asked the University to send the invitation to participate in the research on my behalf. I received 9 responses indicating willingness to participate from the academic staff. However, only 5 participants gave final confirmation with suitable dates for the interview. The others were sent additional emails to remind them about the interview participation, but no response was received. For the interviews, I followed a similar strategy as with students. The interviews were conducted online via Zoom, and questions were shared on the screen. The interview questions were modified according to academic staff perspective, and the number of questions was decreased to 14 questions. This enabled completion of all the interviews within the hour timeframe, as planned. For instance, academic staff were asked how they identified/supported/challenged AGS in their class, whereas AGS students were asked how challenging they found the materials provided by teachers. Another

question was about how teachers perceived their role in students' academic and leadership development, versus students were asked what role teachers played in motivating them in their studies. Questions for teaching staff were mainly related to pedagogical aspects of the study and externally touched on leadership development within the curriculum and through extracurricular involvement. The full list of questions can be found in Appendix B of the thesis.

Participant group 2: Faculty staff

Initially, a stipulated a minimum teaching experience as a requirement for participation among Higher Education Institution (HEI) teaching staff. This criterion was rooted in the belief and expectation that educators with longer tenures would provide more substantial insights compared to their less experienced counterparts. However, the study's focus on investigating the authentic experiences of AGS, which could encompass interactions with faculty members with less experience of HEI teaching, prompted a reconsideration of this initial approach. Consequently, the decision was made to remove the initial prerequisite for participation. Opting to gather data from a diverse cross-section of teaching staff appeared more appropriate, as it closely aligned with the real-life experience of AGS and teaching staff within the HEI environment. My interview invitation was sent to all teaching staff via the university's mail list. The exact count of the teaching staff in the mail list is unknown. However, I received 9 responses from teachers who showed their interest and willingness to participate in the study. Among the potential candidates, 2 were from the Business School, 1 from the Faculty of Law and Social Sciences, 1 from the Faculty of Engineering, 3 from the Faculty of Education and Humanities, and 2 from Centre for Multidisciplinary Education. Among these 9 potential participants, I managed to conduct an interview with 5 academic teaching staff. My effort to build communication with the other 4 potential participants was unsuccessful.

Participant group 3: Executive board members

Individuals in an executive board role were specifically selected as participants to capture data from the vantage points of policy formulation, practical implementation, and decision-making. It was expected that this particular group of participants would offer perspectives representing the institution's stance on acknowledging AGS, and whether this acknowledgment was officially incorporated into institutional policies. Additionally, comprehending their assessment of the pertinence of support services tailored for AGS

held significant importance. Notably, there were no stipulated prerequisites regarding minimum work experience for individuals within this category. This decision was influenced the institution's frequent turnover of personnel in executive board roles, which, once again, conferred an advantage in terms of enhancing the authenticity of the collected data. The executive board consisted of 12 members, including rector, vice-rectors, and deans. 9 of them were contacted with an invitation to participate in an interview. However, only 2 agreed to take part in the interview. I did not receive any response from the rest of the executive members. Due to the insufficient number of participants from the executive board, I later decided to invite Heads of the Departments within the faculties. This is a mid-senior position which is directly involved in curriculum design, working with programme coordinators, as well as recruitment of academic staff. I sent an invitation email to 4 heads of departments. I received 2 responses, one stating that they agree to participate and the other stating that they were on annual leave and could participate after two months. No other responses were received. Thus, I had to proceed with 3 participants from executive board group in total.

4.7 Translation and Transcription of the Data

An essential component of data collection is the translation and transcription of collected data. Esin et al. (2013, p. 12) emphasise that a researcher's role in translating between languages goes beyond linguistic proficiency, requiring an "understanding of the broader lived and spoken contexts associated with both languages." In my study, due to potential language barriers and taking into consideration their comfort and proficiency in English, some participants preferred to speak in Kazakh, and occasionally in Russian. Birbili (2000) also highlighted that addressing such concerns necessitates a profound understanding of the cultural context. Another challenge highlighted by Birbili (2000) is that while working with different languages within their study, researchers may encounter some terms or phrases in the source language that lack a corresponding meaning in the writing-up language. As suggested by Crane et al. (2009, p.54), "language carries the norms, values, and traditions of different cultures, representing more than just the words themselves." Therefore, researchers working in multicultural and multilingual settings need to be aware of possible differences, hidden meanings, and misunderstandings. To communicate clearly and understand others well, they must develop a strong understanding of both the cultures and languages they are working with. Following Crane et al.'s suggestions I considered both culture and language when I carefully considered the translation of text, adjusting the grammatical rules of sentence construction to communicate the translated response in English. Further, I interpreted the transcript to capture the closest meaning of participants' responses as not every word in the source language had an exact equivalent word in English. Drawing upon my personal experience of being a former student and working in a gifted school as a teacher of English as a foreign language, my familiarity with AGS-specific terminology, awareness of the culture and context was advantageous in translating and interpreting the nuanced meanings embedded within the participants' responses. I discuss more about challenges in translating from one language to another in section 7.4 of Chapter Seven.

4.8 Thematic Analysis

I used thematic analysis (TA) as the primary analytical method for my study due to its proven utility in identifying, analysing, and reporting patterns of meaning within qualitative data (Braun and Clarke, 2006). As a foundational qualitative approach, thematic analysis moves beyond simply describing surface-level content to interpret underlying ideas and experiences shared by participants (Braun and Clarke, 2021). Its flexibility allows for application across a range of theoretical perspectives and research questions, making it particularly well-suited for exploring nuanced human experiences (Guest et al., 2012). This method is widely recognised and employed across the social sciences, psychology, and health research, precisely because of its capacity to offer rich, detailed, and complex insights into a dataset (Ahmed et al., 2025; Nowell et al., 2017). Specifically, this study adopted the six-phase reflexive thematic analysis approach developed by Braun and Clarke (2006, p. 87). This particular framework distinguishes itself through its emphasis on the active and interpretive role of the researcher throughout the analytical process, acknowledging that themes are not simply 'found' but are constructed through careful engagement with the data and the research question. The 'reflexive' nature of this approach highlights the repeating movement between data, analysis, and interpretation, ensuring that the researcher's perspective is acknowledged and transparent rather than being seen as a 'bias' to be removed (Braun and Clarke, 2021). Below in Table 5 Phases of thematic analysis is presented. In this framework, a 'theme' is defined as a pattern of shared meaning that captures something important in relation to the research question and "represents a level of patterned response or meaning within the data set", as highlighted by Braun and Clarke (2006, p. 87) A snapshot of how I went through these processes is provided in section 5.1.1 of Chapter Five of this thesis.

Phases	Description of the process
1. Familiarising yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Table 5 Phases of thematic analysis by Braun and Clarke (2006)

4.9 Researcher's Role

It is crucial to acknowledge the researcher's perspective in qualitative social science research, as it directly affects the study's credibility. I have already touched on my background in Chapter One, specifically my experiences with gifted schools and teaching gifted students at the university level. These prior experiences, including my background as a graduate of a gifted school and my professional roles within gifted schools and higher education institutions, are central to my engagement with this research. This aligns with Wellington et al.'s (2005) assertion that the researcher cannot be separated from any stage of the research process. Consequently, my personal and professional experiences, academic training, gender, and other aspects of my identity play a significant role in shaping my relationship to the study. It is important for me to clearly outline my own positionality so readers can understand its potential influence on this research. The researcher's role as an insider and/or outsider is a significant aspect of the research process. Drawing on my background in gifted education and my current professional and research roles, I position myself as both an insider and an outsider within the research context. This perspective reflects Hellawell's (2006, p. 487) view that researchers "ideally occupy both positions," as insider status supports a deeper understanding of participants' experiences, while outsider status enables more critical and reflective analysis of those experiences. This balance can lead to a richer, more accurate understanding of the research topic. I view myself as an 'insider' because I spent three years at a gifted school and another three-and-a-half year in various roles at the university, serving as a lecturer and director of a student services department. During that time, I built strong, positive relationships with many teachers and administrators, with whom I still keep in touch. On the other hand, I identify as an 'outsider researcher' because I have not worked in gifted schools since June 2015, or at a university since January 2022. Additionally, my representation of the "Bolashaq" scholarship programme recipient positions me as an independent researcher. Bolashaq International Scholarship is designed for Kazakhstani citizens and sponsored by the Kazakhstani government with a purpose to train personnel and specialists in the world leading universities for priority sectors of the country's economy. To be awarded this scholarship, I had to go through multiple stages of selection, including the knowledge of Kazakh language at B1 level, knowledge of English language with IELTS score 6.5 and above. I had to pass a test which assesses the candidate's qualitative, quantitative and analytical thinking skills, as well as possessing a high level of expertise in the field of interest and proving that in a committee interview. This is in

addition to having an (un)conditional offer of a place from any top 100 universities provided by world renowned university ranking platforms (e.g., Time Higher Ed, QS Rankings, Shanghai Rankings). Adopting both insider and outsider perspectives proved valuable at different stages of the research process. Bonner and Tolhurst (2002, p.2-3) identify three key advantages of the insider researcher role:

> (1) having a greater understanding of the culture being studied;
> (2) Not altering the flow of social interaction unnaturally;
> (3) having an established intimacy between the researcher and participants which promotes both the telling and the judging of truth. (Bonner and Tolhurst, 2002, p.2-3).

Being an insider researcher brought significant advantages, especially in understanding how the institution, that was my research site, operates, what rules to follow, and how to effectively engage with staff. From these angles, my insider status greatly benefited my research. For instance, my familiarity with the university and its key personnel made gaining access to and contacting potential participants much simpler. However, as an insider I acknowledge the potential risks of overlooking "important information" (Unluer, 2012, p.2) as well as being 'over-familiar' with the research subject, which could unconsciously lead to biased assumptions based on my own views and past experiences, potentially undermining trustworthiness (Unluer, 2012). According to Dwyer and Buckle (2009, p. 59), "if the researcher engages in critical self-reflection and maintains a heightened awareness of their own perspectives and assumptions, they can effectively mitigate potential biases associated with insider status." By actively reflecting on my positionality and maintaining awareness of these potential pitfalls, I adopted a reflexive analytical approach throughout the research process. This approach allowed me to balance between objective and subjective positions for data collection and analysis, while also proactively anticipating and avoiding unforeseen issues. As mentioned earlier, alongside my insider role, I also adopted an outsider researcher role. This was primarily because I am no longer involved in lecturing or any university-related activities. While close communication may initially appear advantageous for establishing rapport with participants, it can at times undermine the credibility of the data and negatively affect the overall trustworthiness of the study. (McConnell-Henry et al., 2010). In such situations, I chose to maintain an outsider perspective to preserve the research's significance and seriousness. As a researcher with an insider's perspective, I faced the challenge of inadvertently steering conversations with student participants due to my pre-existing knowledge. To maintain objectivity, I made a conscious effort to prevent my biases from influencing the dialogue, reminding both myself and the participants that the goal was to

facilitate an open discussion rather than to pursue a predetermined agenda. When participants' contributions diverged from the scope of the interview questions, I gently redirected the conversation to realign it with the study's objectives.

Balancing both insider and outsider roles in data collection and interpretation can present unique challenges, demanding intense focus and careful consideration from the researcher. Dwyer and Buckle (2009, p. 59) emphasise that the critical element is the researcher's ability to remain "open, authentic, honest, deeply interested in the experience of one's research participants, and committed to accurately and adequately representing their experience."

4.10 Chapter Conclusion

In this chapter, I outlined the methodology used to explore the experiences of AGS at a higher education institution (HEI) in Kazakhstan. I discussed the research design, research questions, and the qualitative case study approach aimed at examining the support available for AGS, including teaching methods and leadership skill development both in and out of class. By using an interpretivist approach, I aimed to understand the complex experiences of AGS from multiple viewpoints, including those of students, faculty, and administrative staff. I chose a qualitative case study to collect in-depth data that reveals how one HEI supports its AGS, in terms of pedagogical support and leadership skills development in both curricular and extracurricular setting within the HEI. While case studies may not be statistically generalisable, their findings can still be relevant in similar educational settings (Yin, 2018). I followed ethical guidelines throughout the study, ensuring that participants' anonymity and confidentiality were maintained, and that participation was voluntary. I also acknowledged the potential limitations of the research and took steps to ensure its trustworthiness. The data collection methods used in this case study were designed to provide a comprehensive look at AGS experiences in higher education. I employed a mix of interviews, focus groups, and document analysis to create a triangulation of data that strengthens the validity of the findings. Each method plays a specific role: interviews allow for personal conversations, focus groups encourage collective discussions, and document analysis offers additional evidence. Together, these methods deepen understanding of key themes including teaching strategies, and leadership development via curricular and extracurricular programmes. Using multiple data collection techniques broadened the evidence base as well as aligned with the study's goal of capturing the diverse experiences of AGS. By emphasising participants' viewpoints through semi-structured interviews and engaging group discussions, I aimed to uncover insights that might otherwise go unnoticed. Analysing institutional documents further strengthened the qualitative findings, enhancing the overall conclusions.

The participant recruitment process was carefully planned to capture a wide range of experiences among AGS. I focused on a single university in Kazakhstan known for having a high number of AGS from specialised schools. Using purposive sampling allowed me to gather targeted insights from specific groups: gifted students, faculty, and executive board members. This strategic approach enriched the data collection by reflecting the unique perspectives of each group. Throughout the recruitment process, I prioritised ethical

considerations and clear communication. I obtained written permissions and ethical approvals to uphold the integrity of the research. These documents are included in the Appendices section (p.265). The flexibility of conducting online interviews and focus groups also made it easier for participants to join, despite different time zones and schedules. While I faced some challenges, including varying participant turnout and engagement levels, I adapted by adjusting interview questions and extending session lengths, which helped in gathering meaningful data. This methodology not only strengthened the study's findings but also provided valuable insights into the experiences of AGS in higher education. The next chapters present the data analysis, findings, and discussions that emerged from the collected data, providing insights into how HEI support services can be better tailored to meet the unique needs of AGS.

Chapter 5 ANALYSIS AND DISCUSSION OF FINDINGS

5.1 Introduction

In this chapter I present and discuss the data analysis process. It starts with the analysis of the transcripts where I frequently encountered use of discourse markers by the research participants, and peculiarities in use of Kazakh/Russian/English languages in the transcript. Further, I discuss the reasons for choosing to use letter codes instead of pseudonyms for research participants. In the rest of the chapter, I address the analysis of data, focusing on the qualitative findings derived from the thematic analysis of participant interviews and the focus group, presenting the quotes and document analysis addressing the overarching research question: 'How does a higher education institution support academically gifted students?'. Within this research question I focused on the pedagogical intervention provided by a higher education institution (HEI) for academically gifted students (AGS), and AGS leadership skills development through curricular and extracurricular activities. Employing a reflexive thematic analysis approach, as conceptualised by Braun and Clarke (2006, 2021), allowed for the systematic identification and interpretation of patterns of meaning within the rich focus group and interview data, which I discussed in detail in section 4.8 Thematic Analysis of the Methodology Chapter. This method was specifically chosen for its flexibility in exploring diverse perspectives and its capacity to offer a nuanced understanding of subjective experiences, while also recognising the inherently reflexive nature of the analytic process. The researcher's own reflections, assumptions, and positionality were actively engaged with throughout the analysis, in line with Braun and Clarke's emphasis on the co-construction of meaning between researcher and data. Issues discussed include institutional perception of giftedness; university teachers' roles; academic pressure on AGS; how teachers develop leadership skills of AGS in class; and finally, I discuss holistic development of AGS through extracurricular activities.

5.1.1 Use of Letter Codes

In accordance with the methodology outlined in Chapter Three, this study required the recruitment of specific participants: gifted school graduates who were enrolled in a tertiary education programme at the time of data collection. Through a partnership with a

university, I was able to contact over 800 gifted school (NIS, BIL) graduates from a total student population of 8000. Despite the difficulties in identifying eligible candidates and coordinating interview schedules, 13 of the 26 students who initially responded to the invitation participated in the research. Recruiting academic teaching staff proved challenging, as the response rate was low. This was likely due to the timing of the outreach, which coincided with the final examination period and summer holidays when many staff members were on annual leave. One response explicitly confirmed that the teaching staff was on leave and would be willing to participate upon their return. Nonetheless, I was able to interview five academic staff members. The recruitment of executive board members was also difficult due to the small number of potential candidates and the risk of compromising their anonymity. Despite these constraints, I conducted interviews with three executive board members.

Initially, I considered using pseudonyms for research participants. However, in a small research group, pseudonyms can still be potentially identifiable. A name, even a fake one, carries a certain persona or a sense of an individual. If a pseudonym like “Abay” or “Ajar” is presented to a foreign reader, they may not realise whether this name is referring to a male or female individual. However, someone who is acquainted with central Asian culture and context can easily identify the gender of the participant, as name “Abay” is referred to a male and name “Ajar” is referred to a female. Additionally, if one participant is consistently linked to a specific set of characteristics, such as a student from a particular school, in a certain programme, or a member of a specific academic board, it becomes an actual identifier. In a small sample, participants might be able to deduce the real identity of their peers or colleagues by matching the pseudonym to the known characteristics of the person being described.

Code Label	Explanation
ATSP	Academic Teaching Staff Participant, Teacher, Teaching Staff
EBMP	Executive Board Member Participant, Executive Member
FG1P1	Focus Group 1 Participant 1, Focus Group Participant, Student Participant

Table 6 Letter Code for participant groups and names and explanation of their meaning

Letter codes, on the other hand, are more abstract and impersonal. For example, codes such as “P1” or “FG1P1” emphasise the participant’s role as a data point instead of a person. This abstraction assists in maintaining anonymity, particularly when the study involves a small, well-defined group where personal details are already somewhat known. As suggested by Cohen et al. (2018), by using letter codes, it helps to separate the data from the individual, making it harder for anyone to identify patterns or links leading to participant identification. The codes act as a neutral placeholder for a response, prioritising the content of the data over the identity of the person who provided it. This method provides a stronger layer of protection against the potential for deductive disclosure, which is a significant concern in qualitative research with small participant pools. Due to these factors I decided to use letter codes instead of names/pseudonyms as participants’ anonymity was a priority. Table 6 above explains the codes used to identify the participant responses from each group. In the following section I present and discuss the analysis of my data. I start with the analysis and discussion on perception of giftedness by university stakeholders, including university teachers and executive board members.

5.1.2 Analysis of the Transcripts

The analysis of the transcripts revealed frequent instances where interviewees used filler words such as “like”, “so”, “ah”, “um” and others. These words are described as discourse markers and verbalised pauses as described by Clark and Fox Tree (2002). Research on linguistics (see for example, Schiffrin, 1987; Clark and Fox Tree, 2002; Fraser, 1999) indicate that these words serve as functional components of spontaneous speech. They serve various pragmatic and cognitive purposes, such as allowing the speaker time to formulate their thoughts and to signal the structural relationships between utterances. Use of such discourse markers was common in both English language transcripts and Kazakh/Russian transcripts. There is also an additional contextual peculiarity in use of Kazakh spoken language. In Kazakhstan people in general do not appear to realise that while speaking, they are mixing different languages, as it has become a common practice to use certain Russian or English words or terms in Kazakh sentences. A similar situation occurred while I was interviewing the research participants. For instance, one participant repeatedly used the term ***Curriculum*** instead of “Оқу бағдарламасы” (*in Kazakh*) – which would be translated as “programme curriculum”. Another example would be an abbreviated word in Russian language – ППС, which stands for “Профессорско-преподавательский состав”. This term can be translated into English as “faculty teaching staff”. In the process of translation and transcribing, to ensure clarity and conciseness, I removed extraneous discourse markers from the transcripts that did not alter the meaning. Additionally, while transcribing the interviews and focus group discussions, and translating them into English, I adjusted sentence structure and grammar to produce a coherent and academically appropriate text while preserving the original meaning. The analysis and findings rely exclusively on the researcher’s interpretation of the translated data.

In analysing the data, I utilised a reflexive thematic analysis approach developed by Braun and Clarke. Table 7 below provides examples of the analytic pathway from raw data to initial codes (patterned responses), subthemes, and final themes, demonstrating how shared meaning was developed in relation to the research question.

Participant	**Excerpt (verbatim)**	**Initial code(s)**	**Subtheme / category**	**Theme**	**Analytic memo (1–2 sentences)**
ATSP1	"The issue in the class is when the students' strengths in a subject are diverse. This is a great challenge for almost every person in the class." "It's a waste of time for the fast learners."	Challenges of Teaching Diverse Classrooms	Challenges in Teaching Mixed Ability Classrooms	Challenges in Identification and Inclusive Education	Highlights difficulty in balancing instruction when student strengths vary widely; curriculum often lacks flexibility to accommodate AGS.
ATSP5	"Because of their thinking abilities they perform quicker, and therefore I have some, you know, differentiated tasks, let's say. So, I have a sort of a bank of teaching resources depending on the courses."	Need for Differentiated Instruction	Differentiated and Inclusive Teaching Strategies	Pedagogical Approaches and Differentiation	Shows teacher-initiated use of differentiated tasks; reflects proactive efforts to adapt instruction to diverse abilities within one classroom.

EBMP1	“Instructors see students’ potential through their active engagement in the classroom learning activities.” “Some teaching instructors take students to various events, competitions, and the Olympiads, both internal, external and international.”	Role of Teaching Staff in Identifying AGS	Identification and Inclusion of AGS	Policy, Framework, and Definition of Giftedness	Illustrates reliance on teacher judgment and observation to identify AGS; formal policies appear secondary to staff perceptions.
FG1P1	“Before talking about the challenging academic environment, I think it is important to have one because if everyone feels relaxed about their	Belief in the Importance of a Challenging Academic Environment for Motivation Comparing Academic Rigour Between	Academic Rigour and Intellectual Engagement	Curriculum Design and Flexibility for Advanced Learners	Emphasises academic challenge as a motivator; suggests curriculum design must push students beyond comfort zones to sustain engagement.

	studies and their future, then you are not motivated to study." "During my school years, the challenging academic environment really helped me a lot because I started to think about my future, about things like exams such as the SAT and IELTS. Before that, I didn't even know about these things."	School and University			

Table 7 Snapshot of analysis showing progression from raw excerpts to codes, subthemes, and themes with brief analytic memos.

5.2 The Institutional Perception of Giftedness: Definitions, Identification, and Recognition

As stated previously, there is a significant gap in the literature regarding the perceptions of giftedness within higher education. Therefore, before moving on to the study's primary investigation on AGS experiences, first I decided to investigate how the university

academic staff and executive board members conceptualise giftedness, and how these perceptions influence the experiences of AGS.

Shared Perceptions of AGS

Across both groups one essential commonality was that AGS are viewed as students who grasp covered topics quickly and absorb material in a short time. One executive board member (EBMP2) described them as: "*Students who can easily grasp all the necessary topics, and they're good at their studying."* Similarly, a teacher (ATSP5) noted: *"...Normally, these are quite talented students… From my experience they are fast, they are sharp, and they grasp the idea quite quickly."* This shared view highlights a baseline recognition of accelerated cognitive processing within AGS, aligning with studies noting that "AGS's ability to process learning and information is faster than the average students" (Syafril, 2021, p.73). However, deeper divergences arise in definitions and identification methods which are discussed in detail in the following subsection.

Contrasting Definitions and Identification Methods

Within this study, there appears to be a notable difference in how AGS are defined and identified. University executive board members define these students using formal, quantitative metrics such as Grade Point Average (GPA) and standardised test scores, specifically the Unified National Test (UNT) – a Kazakhstan's university admission exam. All three executive board members defined AGS as ones who have high academic performance resulting in outstanding GPA as well as indicated UNT results as saw these an essential first step in identifying AGS, emphasising them as core indicators. For example, one Executive Board Member (EBMP1) stated: *"I think students with high GPA and high grades in their field of study are academically gifted students."* Another executive board member (EBMP3) echoed this: *"From my perspective, I think it's the [AGS] students who are high performers, outstanding students with high GPA."* This emphasis on academic output was echoed by another Executive Board Member (EBMP2), who equated giftedness with students who *"study hard and achieve some results."* This suggests that the definition of AGS is constructed through measurable performance, which aligns with Renzulli's (1982) Schoolhouse giftedness model, which frames giftedness as excellence in structured, traditional learning environments, measured by high grades rather than innate potential.

In contrast, the teaching staff identified AGS through informal, classroom-based observations of their critical thinking, engagement, curiosity, and creativity. These observations highlight the teachers' value for students who demonstrate skills and outcomes that exceed the expected learning standards of their peers. Three out of five teaching staff offered a more nuanced perspective, emphasising cognitive characteristics and behavioural traits. For example, one member of the teaching staff (ATSP1) defined AGS in the following way:

> [AGS are students who are] successful in almost all the classes they get at the university. Particularly, they have greater analytical skills, critical thinking, analysing the skills, absorbing the given context in a very short time, and they are generally able to generate their own ideas, or they come up with the conclusion very easily

Another member of the teaching staff (ATSP2) noted their tendency to *"go an extra mile"* and apply creativity in assignments, even when not explicitly required. These perspectives suggest a conception of giftedness that extends beyond grades, emphasising the cognitive and intellectual abilities, and learning behaviour of the individual. As one teacher (ATSP5) put it, AGS are students who *"perform beyond (educational) expectations… better than the majority of the student population."* These characteristics align with Gagné's (2013) DMGT Model (See section 4.2), particularly that giftedness is understood as an innate, unlearned potential, not the product of practice or formal education, but as a natural ability observable in an individual's behaviour and performance without special instruction when given the opportunity to demonstrate this.

Role of Prior Schooling and Privilege

Another dimension on perception of giftedness was related to students' backgrounds and privilege, particularly attending gifted schools. Teachers frequently associated AGS with graduates of specialised "gifted" schools like Nazarbayev Intellectual Schools (NIS) and Bilim Innovation Lyceum (BIL), which feature elite characteristics as discussed in section 2.5.4 of Chapter Two. Two of five teaching staff explicitly tied AGS status to these institutions' (NIS, BIL) prestige and rigorous selection via specialised tests, contrasting with inclusive models where gifted students receive support alongside peers in comprehensive schools. For example, one teacher (ATSP4) characterised these students as coming from "very prestigious schools", have access to "many opportunities" not available to their peers in comprehensive schools, identifying the AGS students as being in a more

advantageous position compared to the general student population. Another teacher (ATSP3) stated:

> I believe, those students who have graduated schools with special direction and who have higher performance in humanitarian or other fields, and who have results better than standard above the standard. In terms of Kazakhstani students, I guess those who come from NIS schools, BIL schools, lyceums, different gymnasiums.

ATSP3 added further: *"These students … solve around 70 to 100 mathematical problems per day"* – attributing their capabilities to intense and well-supported schooling. This teaching staff perception, however, contrasts sharply with students' self-views. Although student participants were not directly asked about their perception of giftedness, a BIL graduate (FG3P1) explicitly rejected the label: *"I can't say I am gifted, but I understand that I have some skills."* Similarly surprising, an NIS graduate reported passing the school's rigorous selection exam, which often require 1-2 years of intensive preparation, without any advance study, yet also did not consider themselves gifted. These responses may suggest that while staff narratives frame gifted school attendance as evidence of giftedness, the students may attribute their success to skills or luck instead of innate giftedness. While aligning partially with Gagné's innate potential, this perception blurs giftedness with nurtured privilege, where high-performance stems from selective access as opposed to pure ability. The executives' focus on UNT exacerbates this, as admissions favour students from such backgrounds who excel in test preparation.

University Admissions and UNT Dependency

The university's admissions process exemplifies the metric-centric view, relying heavily on UNT scores and reinforcing narrow definitions of giftedness. As described in section 2.7.1 on Unified National Test and 2.7.2 on State Grant System sections of Chapter Two, the students are accepted to the university based on their UNT results. There are two main routes: state grants (free tuition plus stipend, requiring top UNT scores) and self-funded admissions (minimum UNT score 50/140). Recent Ministry of Science and Higher Education (MSHE) reforms have granted universities greater autonomy, allowing them to set minimum UNT thresholds for self-funded students. Below in Table 8 I demonstrate the main differences between how system used to work, and what changes occurred lately.

Aspect	Previous System	Current System
State Grant Students	Mandatory acceptance of all grantees choosing the university, leading to unpredictable numbers (e.g., 1000 one year, 1500 the next).	Mandatory acceptance of top UNT performers; enables predictions from past data for better planning.
Self-Funded Students	National minimum UNT score of 50/140, set by the Ministry; no university control.	University sets its own minimum (raised to 100/140) to attract high achievers and control enrolment.
University Control	Limited; late August grant lists caused planning issues.	Enhanced autonomy to manage infrastructure and target high-calibre applicants, though not full control.

Table 8 University acceptance differences between the past and present systems

The universities can now set their own minimum UNT score, allowing the universities to decide who to accept, thus eliminating the underachieving students, and controlling the inflow of new students. The university, where my study took place, seized this opportunity by increasing the required score for self-funded students to 100/140. This change allowed the university to better manage infrastructure by limiting the number of new students and to intentionally attract an apparent higher calibre of applicant. According to Astin (1999), resource theory in pedagogy holds that high-achieving students contribute significantly to the overall learning environment by elevating academic quality and peer learning for all students. It is perhaps this belief that leads many institutions to devote considerable financial resources to attracting and enrolling large numbers of these high-performing students. Previously, the universities in Kazakhstan had limited control over their admissions. They were required to accept all students who received a state grant and chose to attend, leading to unpredictable fluctuations in student numbers. For instance, one academic year the university could have inflow of 1000 newcoming students, another year the number could be 1500 students. This inconsistency of incoming students creates a

problem in appropriate preparation for the new academic year, as they could not know or predict the number of incoming students up until late August, when the state grant awarded list is announced. Even though this process does not provide the university with full control of deciding how many new students they can accept each year, it helps to make estimated predictions based on statistical data from previous admission years.

EBMP1 described UNT as *"the first step in identifying and attracting… gifted students to our university."* While easing logistics, this system creates a cycle, where privilege enables high UNT scores, which are rewarded with admission, equating "giftedness" to successful test results instead of developing potential. It remains unclear whether students with high UNT test scores are inherently gifted or just well-prepared.

Challenges in classroom identification of AGS

Teachers primarily identify AGS through lived observation in early classes, noting standout traits like activity, knowledge demonstration, and critical thinking. ATSP2 observed: "*Even in the first classes, they usually stand out… they show their knowledge, they are more active.*" ATSP5 added that they can be noticed "by week 2" through their "critical thinking" and complex questions. Initially biased toward gifted school graduates (e.g., NIS/BIL), one teacher (ATSP2) later recognised potential in comprehensive school students. This may suggest that within the current university intake system some gifted students from the non-gifted school route could have been overlooked and rely only on teacher identification. However, this intuitive method depends on individual teacher awareness, experience, and time, leading to inconsistencies. ATSP1 questioned: "*How shall we identify them? Where is the limit? Are we going to measure their IQ or EQ?"* These questions seem to demonstrate that teachers need clear and distinctive policies and procedures that regulate the identification process of AGS within the university, thus providing systematic support and preventing inconsistencies.

Analysis of university policy documents (2019, 2020, 2022, 2024a, 2024b, 2024c, 2025) revealed no explicit definition of AGS or standardised identification protocol regarding the AGS. The absence of such policy creates challenges in addressing the issues related to AGS and providing targeted support within the institution. Without a clear policy from the university, teachers are left to rely on their own judgment, which increases the chances of inconsistency, potential oversights of gifted students, and provision of unequal support. One teacher (ATSP4) called for institutional clarity on definitions, identification, and

compensation for extra efforts (e.g., enriched materials, feedback), noting: *"These academically gifted students… require more than other students… but again, if it is paid."* Without a formal institutional system in place, support becomes voluntary. One teacher could go beyond the expected curriculum standards, while others may find it not necessary as it is not required formally, leading to unequal opportunities.

These perceptual divides: quantitative vs. qualitative, innate potential vs. measured output, and privilege vs. merit – create uncertainty in recognising and supporting AGS. Executives' GPA/UNT reliance overlooks teachers' observed traits, potentially missing diverse gifted students. This misalignment, compounded by an admissions system, prioritises selectable high performers over holistic identification thus fostering a narrow construct of giftedness. Such tensions contribute to systemic barriers in targeted AGS support, which are explored in section 5.3.1 of Chapter Five.

In this section I focused on investigating how university staff and policies understand giftedness. I examined whether there is a common understanding on this among all stakeholders of the university, including teaching staff and executive board members, and how it reflects to gifted students attending the university to help me to understand and better address all three of my research questions:

1. How does HEI support academically gifted students through pedagogical interventions?

2. How does HEI integrate leadership development among academically gifted students through their academic curriculum?

3. How do out-of-class opportunities support the leadership skills development of academically gifted students in HEI?

In the following sections I discuss how I addressed each of the research questions in detail based on my analysis of the data.

5.3 Research Question 1: How does HEI support academically gifted students through pedagogical interventions?

Having explored the institutional perception on giftedness in the preceding section, we currently know that there is no institutionally regulated common view on giftedness. Being aware of this, it is easier to understand further discussions about my research questions. Therefore, current section discusses how teachers support AGS. Following that I discuss pedagogical issues raised by AGS themselves based on their personal experiences. I discuss in detail whether teachers are providing pedagogical support to AGS in their classes or not, and if yes, then how they are doing it. This is followed by discussion of academic pressures and societal expectations highlighted by AGS. Finally, I focus on the university teachers' role and additional roles. This was a significant step in investigating how teachers are working towards providing pedagogical interventions for AGS.

Pedagogical Commitment in Supporting AGS Students

All five teachers reported adapting their pedagogy by modifying course materials, designing more challenging assignments, or providing enriched feedback. Yet, these efforts were consistently described as "extra" work – voluntary, unrecognised, and outside the formal expectations of their role. Teachers framed such differentiation as a personal responsibility as opposed to an institutional requirement. For instance, ATSP5 developed a dedicated bank of resources for AGS, stating:

> I understand that my job as an educator is to provide a conducive environment that supports learning … I have some, let's say, extra tasks or extra materials for those academically gifted students.

Similarly, ATSP2 reported providing IELTS-like materials and more detailed feedback to prevent gifted students from becoming disengaged:

> I usually try to give them richer feedback… I give them more challenging homework assignments so that they could truly put effort in doing these assignments and not get bored.

These perspectives illustrate teachers' commitment in supporting students with different academic levels.

Massive Open Online Courses – Opportunity for Institutional Support

The university tries to support the students in their academic journey and positions themselves as student-centred. One of the examples of such support is that university creates opportunities for exchange programme students who are studying abroad to take Massive Open Online Courses (MOOC) from their own university. EBMP1 stated: **"***We try to provide support by offering them online access to the courses or create MOOC courses."* This opportunity demonstrates the possibility for differentiation, but it is currently limited to university students attending international exchange programmes, spending one semester in overseas partner university. This ensures the students are not falling behind their peers while studying one semester abroad. Providing MOOC courses seem to have a potential in offering differentiation opportunities for on-campus students as well, however this process seems to have not yet been applied. Considering the context of Kazakhstan, providing and conducting courses in-person as opposed to MOOCs is preferred by students. Although arguably, if the provided MOOC courses are engaging and of quality to replace the courses conducted in-person, this option could be offered to all students, additionally optimising the efficient workflow of the university services. Even though numerous different approaches are being developed in supporting teaching at the university (e.g. teacher training, reflexive observations, competitions), there are still concerning points on deliberate teaching support for AGS students at the university. While the university may benefit from the outcomes of individual teacher-driven differentiation, such as improved student engagement or achievement, it does so without making visible or structural investments in such practices. As ATSP5 notes, even with additional resources and differentiated tasks, *"there is no such requirement from the university."* This absence of formal expectation means that gifted education in this context relies entirely on educators' intrinsic motivation, excluding the institutional policy or professional development frameworks.

Classroom experiences of AGS

When asked about specific classroom experiences in stimulating students' intellectual capacities, there were several recurring topics from all four focus groups that I picked up on, which include active engagement, real-world application, teacher influence, and structured learning approaches. Many participants emphasised that intellectual stimulation occurs when they are actively involved in the learning process. This can take different

forms, including project-based learning, discussions, role-playing, and laboratory work. Two students mentioned that having autonomy in selecting project topics deepens their engagement. FG1P1 explained:

> When you create your own project and choose the topic yourself, you become very interested in it because it was your desire to choose it.

This statement highlights that personal attachment or involvement in a project can increase students' motivation and foster intellectual stimulation. This aligns with literature (see for example, Blumenfeld et al., 1991; Kokotsaki, Menzies and Wiggins, 2016), arguing that project-based learning can foster greater motivation and cognitive engagement as students actively construct knowledge through practical, inquiry-driven classroom experiences. Within a pedagogical approach called project-based learning (PBL) students acquire knowledge and develop problem-solving abilities by conducting research, engaging in inquiry-based activities, and applying diverse resources to address a given problem, a process that typically spans four key stages: conception, validation, refinement, and product creation (Ning, 2024). PBL effectively engages and motivates students in addressing real-world issues, by promoting peer collaboration, critical thinking, communication, and interdisciplinary inquiry (Thomas, 2000; Karpudewan, et al., 2015). Addressing real-world issues in project-based learning fosters a personal investment in finding solutions, which acts as a powerful catalyst for students to modify their beliefs, attitudes, knowledge, and behaviours (Karpudewan, et al., 2015). By shifting the focus from passive information reception to active engagement with personally meaningful tasks, this pedagogical model encourages deeper learning. This approach helps students to employ higher-order thinking skills, such as problem-solving and critical analysis, resulting in a more comprehensive and robust grasp of the subject matter (Blumenfeld et al., 1991). Even though none of the teacher participants explicitly indicated utilising the PBL method in their courses, three of them highlighted that involving AGS in projects will be beneficial in keeping them engaged in courses. One teacher (ATSP1) suggested an approach by linking AGS with professors. This could lead to realisation of AGS' potential, serving as a professors' assistant or research assistant. As ATSP1 stated:

> After such students [AGS] are identified, there should be specific ways, methods, or procedures to link them to professors and involve them in different research projects.

Astin (1999) claimed that participation in professors' undergraduate research projects, along with enrolment in honours programmes and involvement in ROTC enhances retention.

Another teacher (ATSP3) shared her view on how project work is delivered in her course:

> Students divide the duties between each other, and then somebody works with the theory, another prepares in an activity… They are all given equal responsibilities.

Another teacher (ATSP4) highlighted the financial opportunities available to students'; in case the business projects have a potential turning into a real business model. ATSP4 stated: *"There is a possibility that their project can be financed by any interested investor, angel finance investor, or stakeholder."* These opportunities lay a foundation for students to explore the field, identify gaps, propose a solution by creating their own product. The ability to explore a topic freely transforms learning from passive consumption to an active, curiosity-driven process. According to Choi et al. (2017), traditional lectures, characterised by a passive, one-way transmission of knowledge, are widely regarded as less effective for student learning than pedagogical approaches that foster a more active and engaged student role. One student participant (FG2P3) highlighted that their classroom practices and experiences offered by their teacher provides intellectual stimulation in acquiring the content, as well as simulating their future professional roles. They (FG2P3) explained:

> We make some simulations [for diplomats], like the model of the United Nations or UNESCO. These simulation games motivate and give an understanding of international relations. I had some teachers who provided such games… showing a mini version of our future work. In these games, our intellect is tested. We think about what we will do in the future if we continue this path. These extraordinary games or experiences show us what we might do in the future, and whether we are going to like it or not.

Student's comments suggest that these classroom simulations immerse students in realistic scenarios that mirror professional diplomatic practices. Through role-playing and problem-solving in simulated settings such as the United Nations (UN) or UNESCO, students are intellectually challenged to apply theoretical knowledge to practical, policy-oriented situations. This experience appears to engage negotiation, critical analysis, and decision-making, which are part of higher order thinking. Applying these skills in practice stimulates students' intellectual growth. At the same time, by enacting the roles of diplomats, students can envision themselves in potential future careers, assessing both their

skills and interest in the field. Therefore, such classroom practices enhance understanding of the content along with providing a "preview" of possible professional trajectories, linking academic learning with vocational exploration.

Debates and Role Plays

Three students also highlighted that intellectual engagement often appears through peer interaction and structured debate. FG4P3 recalled engaging in debates and role plays, which fostered critical thinking: *"It made me understand more about others' opinions and how I see the subject from another viewpoint."* This may indicate that intellectual engagement with peers helps student to negotiate perspectives and construct arguments, along with learning the subject content. However, this applies to all students rather than to only AGS students. Winsett et al. (2016) indicates that working in groups can foster different types of student engagement. Group discussions can promote physical engagement, while collaborative projects may drive emotional engagement. Furthermore, a variety of group-based activities can lead to both emotional and cognitive engagement outside of the classroom. (Winsett et al., 2016).

In FG2P2's case, a business fair project allowed students to apply economic concepts in a tangible way: *"It showed us how real business and marketing work, and how to communicate with customers."* This aligns with a growing body of research suggesting that experiential learning enhances retention and engagement (see for example, Winsett et al., 2016; Bauerle and Park, 2012; Thomas, 2000; Karpudewan, et al., 2015).

FG3P2 described how discussions on the application of mathematics and statistics in different fields such as economics made abstract concepts more engaging and relatable, highlighting the important aspect of learning and application of knowledge. *"We discussed global problems and how we, as professionals, could contribute to solving these problems."* Similarly, Bauerle and Park, (2012), in their study of student knowledge retention in the plant sciences, suggest that "the practical, hands-on application of conceptual knowledge enhances both student achievement and engagement" (p.717). This supports the notion that experiential learning opportunities taking place outside the classroom, is valuable for teaching complex subjects (e.g. the nature of plants). An empirical study (Marley, Siani and Sims, 2022) on effects of real-life research projects on student engagement also supports this claim, stating an increase in student motivation and confidence, benefitting students as well as academic staff.

According to my focus group data, when teachers use various teaching methods (e.g. application of statistical methods in solving global problems, pop up questions, debates, role plays, business model project), students' intellectual engagement level increases. Three student participants credited their academic interest to specific teachers who brought energy, real-world examples, and interactive methods into the classroom. FG2P1 recalled how a chemistry teacher at school made the subject compelling by connecting it to local scientific discoveries: *"He always provided some interesting facts and examples from real life. [...] He always asked our opinions about chemical reactions."* This may suggest that relatability and relevance are essential in maintaining intellectual curiosity. However, the student responses also stated that while inspiring teachers can motivate for a subject, conversely, poor teaching methods can completely disengage students. Makkonen et al. (2022), emphasised the importance of inspiring teachers combined with engaging lessons with interesting topics and experiments, and access to subject-related digital media, in talent development among AGS. One student participant (FG2P1) described how a one university teacher's negative attitude discouraged them:

> As we entered the class, he said that we should understand that programming is difficult, so if we don't want to study, then we should leave. That conversation built a negative impression, so I stopped listening to him.

Having a closer look at these two separate contexts from the same participant reveals that students may struggle with feeling excluded, rather than seeing academic challenges as problematic. When teachers present learning as something reserved only for the "high achievers", it may create an atmosphere of gatekeeping, making students feel unwelcome and discouraged. This may seem to contradict earlier comments from the AGS responses about needing to be challenged outside of their comfort zone, demonstrating the individuality of AGS needs regarding teaching and learning approaches. In this case, the university teacher clearly states the course is difficult and requires students to put effort and work hard. However, from student's reaction it can be assumed that a more inclusive environment with supportive and caring attitudes from teachers can enhance students' willingness to tackle difficult concepts.

Motivation through Challenging Academic Environment and Social Comparison

When discussing challenging academic environments, most student participants agreed that such contexts are crucial for both personal and academic development. Eight out of thirteen students across four focus groups emphasised that academic rigour fosters

discipline, problem-solving skills, and resilience. One student (FG1P3) explained that in a comparison between environments that were challenging and those that were not, the former pushed students to be more active and capable in lessons:

> If we compare two environments where one is challenging and the other one is not, the one with the challenging environment will probably stimulate students to be more active during lessons and to get better at certain things.

Similarly, another student (FG4P3) explicitly connected challenge to the cultivation of a growth mindset, noting that without difficulties students miss the opportunity to learn from failure and to develop strategies for recovery:

> Challenges are the core of the growth mindset. Without them, students don't get opportunities to take leads, learn to fail, and figure out how to pick themselves up again.

These perspectives may suggest that difficulty as a necessary condition for growth, echoing research that links rigour to self-regulation and persistence. This view is supported by Bjork and Bjork's (2011) theory of "desirable difficulties," which argues that learning conditions that introduce challenge and slow apparent progress often produce more durable and transferable learning, as they strengthen long-term memory representations. Similarly, self-regulated learning research (see for example, Bandura, 1997; Schunk, 1984; Zimmerman, 2000) highlights that students' persistence and effort are most evident under challenging conditions, with "students' self-efficacy measures were related to their choice of tasks, persistence, effort expenditure, and skill acquisition" (Zimmerman, 2001, p.18). Together, these studies reinforce the idea that rigour is not an obstacle to growth, but a catalyst for deeper learning and self-regulatory development.

However, a crucial insight emerging from the discussions was the role of *social comparison* in shaping how students experience and interpret such challenges. This process, where a student uses peers' performance for self-assessment, is considered a pervasive aspect of classroom life (Levine, 1983). As Makkonen et al. (2022) stated, one of the factors fostering a talent development in gifted students is being surrounded by a peer group of motivated and gifted students. Four participants described being motivated by peers or teachers who set high standards, aligning with the concept of *upward comparison* – *"*a comparison to a superior target" (Diel, Grelle and Hofmann, 2021, p.1416). For instance, FG2P1 recounted an experience from high school where an unintentional rival in mathematics inspired them to improve:

> There was a smart boy who was good at math. I was interested in him always getting the highest scores in mathematics and started to compete with him. [...] Due to this situation, I began to get interested in math.

This participant's experience demonstrates the potential for an upward comparison to act as a maximally effective standard (MES), which triggers a state of self-improvement motivation, or "pushing". Research by Diel et al. (2021) shows that increasing discrepancies between one's own standing and an upward standard increase the effort an individual is willing to invest, although this motivating effect declines if the standard becomes too extreme or "out of reach". Furthermore, the comparison led to increased effort investment, which is linked to increased motivation.

Similarly, FG3P1 shared that being surrounded by Olympiad-winning friends motivated them to pursue high-level competitions. Such examples illustrate how social and cognitive comparison can serve as powerful drivers of academic motivation, by setting high standards. Previous research supports this notion. Ozturk and Debelak (2008) and Phillips and Lindsay (2006) argue that academic competitions combine intrinsic and extrinsic forms of motivation. While initial participation may depend on external incentives, effective competition encourages the development of intrinsic motivation, fostering sustained effort, enjoyment, and long-term academic commitment. Competitions can enhance self-awareness and motivation for some gifted students. Participation in competitions also helps gifted students to realistically assess their abilities, enhancing self-awareness and self-esteem through both success and meaningful experiences of failure (Ozturk and Debelak, 2008). The researchers further argued that less successful students may experience a decline in confidence and motivation as well as psychological pressure and disengagement, highlighting the importance of developing resilience when facing failure.

Beyond individual competition, students also highlighted the broader social ecosystem within which academic motivation develops. This ecosystem comprises the network of relationships among peers, teachers, and the wider academic culture that collectively shape students' learning experiences. Student FG2P3 referenced a Kazakh proverb: *"Show me your friend, and I'll tell you who you are"*, to emphasise that being surrounded by ambitious and disciplined peers can foster a similar mindset.

Teacher expectations were also mentioned, with one student (FG4P3) describing how a strict university lecturer's high standard, although initially discouraging, ultimately made them more attentive and resilient:

> At one point, I was giving up, but then I understood that it was a lesson to work harder and pay attention to details. Instead of making me weak, it made me stronger.

Such examples suggest that a challenging academic environment extends beyond curriculum difficulty. It involves cultivating an interactive environment where expectations, comparisons, and shared values continuously influence students' engagement and performance. This aligns with the findings of Rafiq et al. (2022), who argue that a student's academic success is shaped by their physical environment, teacher support, study discipline, access to learning resources, and participation in extracurricular activities.

While eight students welcomed challenge, some also emphasised that its value depended heavily on autonomy and personal interest. three participants indicated that being compelled into areas of study, often under parental influence, diminished their motivation and contributed to burnout. For example, one student (FG2P1) described choosing a degree in Information Systems to meet parental expectations. However, the lack of passion for their chosen field, combined with the programme's demands, ultimately led to disengagement, and change of programme of study:

> I used to study in Information Systems since my core subjects at school were physics and mathematics. For me personally, it was one of the programmes with 3D modelling which caught my interest, among all offered programs.

By contrast, other students described actively seeking challenges, such as participating in camps, multiple extracurricular roles, or additional courses, as a way to avoid stagnation. Student (FG4P2) reflected that challenges are meaningful only when they are self-directed:

> I wanted to participate in different camps and right now I'm working at two exclusive positions at once, studying an English course. The reason I'm doing this is to avoid being in a comfort zone.

The findings of this study align with prior literature emphasising autonomy, internal will, and social belonging as central to gifted students' motivation and adjustment to university (Hammond, McBee and Hébert, 2007; Almukhambetova and Hernández-Torrano, 2020a). Participants' narratives may suggest that AGS are not resistant to challenge itself, but to

challenges perceived as externally imposed and misaligned with their personal goals or interests. This distinction reflects Mills and Blankstein's (2000) findings that students who experience high standards as self-imposed are more likely to adopt adaptive learning strategies, whereas externally imposed expectations, can undermine motivation, increase anxiety, and foster maladaptive behaviours. Together, these findings indicate that motivation and adjustment among AGS are best supported when academic rigour is balanced with autonomy, meaningful challenge, and a supportive social and academic environment, allowing high expectations to be internalised as opposed to experiencing through external control and imposition.

Need for Academic Rigour

The transition from school to university also illustrated the importance of challenge. While engaging with students in the focus groups, they discussed the necessity for educational institutions to provide intellectually stimulating experiences that align with students' cognitive abilities. Six student participants credited academically rigorous schooling with providing skills such as better preparation for university self-regulated learning, stress tolerance, adaptability, and independence, helped them to adjust more smoothly to higher education. One student (FG2P2) described how the discipline and flexibility acquired at school supported their transition into adult life, linking to **chronosystem** (see p.64) in Ecological Systems theory by Bronfenbrenner (1979): *"The discipline, stress tolerance, and flexibility I developed during [school] helped me to adapt more quickly to adult life."*

In contrast, students who had not experienced sufficient academic challenge in the early stages of their higher education resulted in struggle to adapt. For example, one student (FG4P2) admitted that their freshman year was marked by disengagement and distraction because the academic environment felt too easy: *"My freshman year was a mess because everything was too easy, and I spent most of my time playing video games."* These accounts in the environment may suggest that early start of rigour in tertiary education could build resilience as well as could prevent later disengagement. Constructive engagement, when integrated with a rigorous curriculum and authentic learning experiences, fosters enhanced learning opportunities and thus serves as a direct pathway to improved performance (Skinner and Pitzer, 2012). According to Duckworth et al. (2007), resilience, also referred as "grit", is a better predictor of academic success than intelligence quotient. Resilience is viewed as an acquirable trait, an ability developed through successfully navigating demanding academic situations, thus gaining the stress tolerance

and coping mechanisms necessary to overcome setbacks (Southwick and Charney, 2018). To prevent disengagement in learning among university students, Winkelmes, (2023) suggests utilising a transparency in learning and teaching (TILT) framework, which is based on purpose, tasks, criteria for any activity provided. Skinner and Pitzer (2012), also propose educational practices that enhance student engagement in the following three interconnected areas: student experience, the social learning environment, and teacher behaviour. First, engagement is strengthened when it is treated as a central instructional goal. Monitoring students' emotional, cognitive, and behavioural involvement allows educators to identify disaffection early and respond with greater warmth, structure, and autonomy support. Authentic, challenging, and relevant learning tasks that encourage active participation, collaboration, and student choice further promote sustained interest and commitment. Second, a supportive social learning environment fosters intrinsic motivation by addressing students' needs for relatedness, competence, and autonomy. This includes building caring relationships, maintaining high expectations with clear feedback, and creating a mastery-oriented climate that values effort, growth, and learning from mistakes as opposed to performance outcomes. Finally, teachers play a critical role by modelling their own engagement and constructive coping strategies. Demonstrating enthusiasm, resilience, and openness about challenges encourages students to adopt similar attitudes. Supporting teachers' own psychological needs also enhances their capacity to create engaging, motivating classrooms. Collectively, these practices create a learning environment where students feel supported, motivated, and willing to invest effort, leading to deeper engagement and improved academic outcomes. However, Nelson (2010, p.179) cautions against "weeding out" weak students, regarding their failure to "inability, weak preparation, or lack of effort." He emphasises an inappropriate pedagogy as a main cause of students' failure. Poor academic performance has been linked to cause mental health problems among students (Ibrahim et al., 2013). Therefore, effective rigour must be intellectually stimulating and carefully supported.

Additionally early identification of such individuals could also assist in providing appropriate accommodations and support. This may also suggest that not considering AGS students' capabilities in the teaching and learning process may result in boredom and thus putting the students' educational pursuits at risk, followed by potential risks in their future career and life (Besnoy, Jolly and Manning, 2021; Cross, 2014; Reis and McCoach, 2000). Astin (1999) highlighted that for male students, boredom with courses directly linked to students drop out from the university. Academic underachievement among university gifted students may occur when AGS are surrounded by other peers with equal or even

better ability, regardless of their (non)gifted school background. This results in students doubting their self-esteem. Furthermore, a lack of support from the university in assisting AGS to accept and adjust to the new environment also contributes to underachievement (Almukhambetova and Hernández-Torrano, 2020a).

Teaching staff perspectives confirmed the difficulty of providing appropriate levels of challenge in mixed-ability classrooms. Two teachers described deliberately grouping gifted students together to ensure they remained stimulated. Teacher (ATSP4) stated:

> When it comes to group working, I try to organise a group in a such way that each high performing student will be placed in his/her peer group, where that student can feel the challenge

One teacher (ATSP3) added that when AGS students are grouped with low performing students, they become bored and emotionally show that they are reluctant to work with low performing students:

> When you put them in the groups with lower performing students, they show, emotionally, that they don't want to work with them. So, I tried to understand, and I differentiate the tasks, and I put them in different groups.

Others differentiated tasks to address students' diverse levels. Yet teachers also acknowledged the structural limits of such approaches. One teacher (ATSP1) explained that if they adjusted the pace of teaching to suit high achievers, the majority of students would struggle, but slowing the pace to accommodate weaker learners would leave a significant proportion bored. This reflects the practical challenges educators face in balancing diverse needs within a single classroom. However, use of "curriculum compacting" strategy, proposed by Reis and Renzulli (1995) could actually resolve similar issues described above. Even though this strategy was developed for the school curriculum, it could also be adjusted to university level courses. Rather than repeating proficient content, the curriculum transitions toward advanced project-based learning and self-directed inquiry. Such an approach could potentially give the AGS opportunities for networking with peers from upper-classes or even graduate level, providing a collaborative space for advanced learning. Using this approach instead of testing provides the student with continued mentorship and guidance from the teacher. Interaction between peers and teachers discussed in this section links to the **microsystem** (see p.63) proposed in Bronfenbrenner's Ecological System theory. Peers, teachers, university academic advisors and mentors directly interact with AGS in development of their competencies in various

domains (academic excellence, leadership, etc.). A study on multilevel language teaching by Ashton (2017) emphasises the role of technology and self-directed learning in multilevel classes, highlighting the need to support students in both directions and to avoid assuming students' proficiency in either area. Ashton (2017) further argues that to reduce stress and to maximise the benefits of multilevel classrooms, initial teacher education programmes should prepare new teachers to effectively differentiate curriculum materials and to group students according to different learning tasks. Rosenfeld and Rosenfeld (2007), argue that when teachers are sensitised and introduced to individual learning differences among students, it positively influences teachers' beliefs about students, which in turn may result in appropriate interventions, preventing student underachievement.

The findings can be interpreted through learning theories that highlight the role of appropriate challenge and tailored support in student engagement. From a self-determination theory perspective, learning experiences that lack sufficient challenge may weaken students' sense of competence and autonomy, leading to boredom and disengagement, whereas overly demanding or insufficiently supported tasks may contribute to stress and withdrawal (Deci and Ryan, 2000). In a similar way, Vygotsky's concept of the zone of proximal development suggests that learning is most effective when tasks are aligned with students' developmental readiness (Walker, 2010). For AGS, this alignment is often difficult to achieve in mixed-ability university settings, where curricula may not adequately extend their capabilities. At the same time, the application of such theory-informed approaches in higher education is constrained by structural factors, including large class sizes, standardised curricula, and limited opportunities for lecturers to implement differentiated instruction. Within these constraints, strategies such as curriculum compacting, tiered assessment, TILT, and flexible task-based grouping provide practical ways to introduce more individualised challenge while maintaining inclusive learning environments. Collectively, these approaches support a shift away from deficit-based views of student performance towards pedagogical practices that promote engagement, resilience, and academic development across diverse ability levels.

5.3.1 Barrier to Pedagogical Interventions.

This section discusses the barriers preventing effective pedagogical interventions for AGS. Three interrelated issues emerged: the lack of reasonable adjustments for AGS, underutilisation of university infrastructure, and limited communication among university stakeholders.

At the classroom level, the current approach means that AGS receive support only when individual teachers notice their needs and voluntarily choose to respond. As one teaching staff member (ATSP2) explained, they provided optional International English Language Testing System (IELTS) tasks to challenge their AGS students: *"It was not obligatory, but rather it was recommended to try to do IELTS."* This initiative stemmed solely from the teacher's perception of how to support gifted students instead of focusing on institutional policy. Teacher (ATSP2) further noted:

> We're given freedom of choice in terms of what to do during our lessons. And if we want to challenge students, and if they are okay with that, then I guess we can do whatever we want here in our lesson.

Similarly, another teacher (ATSP3) observed that AGS students *"feel bored at the first minutes of the lesson if it's not challenging,"* underscoring the need for differentiated instruction. However, these examples demonstrate that efforts to support AGS are informal, inconsistent, and dependent entirely on individual teachers, instead of being guided by a structured institutional framework.

At the policy level, the university's *Equality, Diversity and Inclusivity Policy* (University Policy Document, 2022) represents a positive step in commitment to inclusivity by recognising *giftedness* as a protected characteristic. However, the document lacks specific details on how the university plans to address the unique needs of gifted individuals, which could be a point of critique. The policy pledges to challenge discrimination based on characteristics such as age, disability, race, religion, and giftedness. This inclusion in the document signifies that the university recognises giftedness as a form of diversity that requires protection from discrimination. It also commits to developing strategies and implementing them to enact this pledge. While commendable, the policy lacks detail on how the university plans to address the specific needs of gifted individuals. It defines *equality* as providing "the same treatment, access and opportunities for all individuals," yet research shows that gifted students often require differentiated support and opportunities that go beyond a one-size-fits-all approach to thrive (Eikeland and Ohna, 2022; Tieso, 2003).

The policy also describes itself as a "starting point" for future guidelines, but it does not specify what "reasonable adjustments" might entail for AGS. In contrast, the *Reasonable Adjustments for Students with Disabilities and Special Learning Needs Policy* (University Policy Document, 2024) offers a detailed implementation framework involving

identification, assessment, plan development, approval, and continuous monitoring. This could serve as evidence for the existence of a working group developing the guidelines. which was also repeatedly highlighted by three executive board member participants on hiring an expert on inclusive education. Even though the university lacks the concrete framework on gifted students, the university already possesses a functioning "reasonable adjustments" model for students with Special Educational Needs and Disabilities (SEND). This could be adapted for gifted students thus developing practical strategies that transform its policy into an effective tool in creating an inclusive environment for gifted individuals. The commitment by executive board members to hire an expert in inclusive education further indicates institutional awareness, though concrete action has yet to materialise.

Teachers' accounts also highlight the practical challenges of mixed-ability classrooms. One teacher (ATSP1) described the difficulty of balancing instructional pace:

> If I arrange the speed of my class according to the high achievers, 95% will fail… But if I arrange my speed according to the slow learners, at least 40% will be sacrificed because they will be bored.

Although these figures are subjective, they illustrate the significant academic gap between AGS and the general student population. The teacher's reflection suggests that heterogeneous classrooms force a trade-off between maintaining engagement for AGS and ensuring comprehension for others. Homogeneous grouping by ability might alleviate this tension and support more appropriate pacing.

Interestingly, the university already has the technical capacity to facilitate such grouping. An executive board member (EBMP1) confirmed that the university's online portal can segregate students by school or academic performance (e.g., UNT exam results): *"If we had to gather NIS or BIL graduates in a separate class… this is technically possible."* However, this infrastructure remains largely underused because teachers are unaware of its capabilities. As EBMP1 later admitted: *"Maybe we even did not inform our academic teaching staff about such abilities of our portal."* This gap in communication reveals that, while the university possesses tools that could support differentiation, this option remains largely unused due to lack of coordination and dissemination of this information. Considering these technical capabilities, it is reasonable to initiate a piloted project about different ways to support students with different academic levels. This approach warrants investigation given that at least two out of five teacher participants reported challenges in managing diverse learning needs within a single classroom. Such a strategy could

potentially alleviate the need for compromising course delivery to accommodate varied student proficiencies. The university's existing portal, with its capability to organise student groups aligned to their knowledge levels, could be instrumental in addressing the challenges highlighted by the teachers. This would be a similar approach utilised in gifted schools where they select the best students among comprehensive schools. This issue is widely debated among the society, questioning the increased funding of specific schools more than other comprehensive schools, resulting in an increase in inequality in educational experiences (Yakavets, 2014; Kemelbayeva and Kurmanov, 2024). Therefore, any institutional action should be preceded by a thorough investigation and evaluation.

While the university publicly attracts AGS students as markers of institutional excellence and promotes its ability to attract AGS as a sign of excellence, it has not established mechanisms to identify or monitor them. As one executive board member (EBMP1) acknowledged: *"We have never tracked the statistics on AGS… we have not focused on AGS at any point."* This lack of tracking reflects the broader issue: without recognition, data, or targeted policy, AGS remain unsupported despite institutional rhetoric of inclusivity. Addressing these barriers will require translating policy commitments into actionable frameworks, fostering communication among stakeholders, and utilising existing infrastructure to provide differentiated educational experiences. However, even with improved tracking of students from gifted schools, a fundamental question remains: how can the university nurture a gift into a talent if that potential is unknown or not yet demonstrated? This challenge brings us back to Gagné's Differentiated Model of Giftedness and Talent (DMGT), which re-frames giftedness as a potential that requires intentional nurturing instead of an automatic predictor of success. This perspective highlights the necessity of proactive interventions and developmental opportunities, challenging the assumption that giftedness will lead to achievement on its own. In section 6.3 Equity vs Inequality in Higher Education Institution of Chapter Six, I discuss further the problems related to tracking.

5.3.2 University Teachers' Role in Providing Pedagogical Interventions

I investigated the role of university teachers because they are central actors in shaping and guiding students' academic and personal development as well as supporting students through pedagogical interventions (in terms of addressing RQ1). According to Makkonen et al. (2022) teachers are the most influential people in developing AGS' talent

development. Exploring teachers' perceptions of their roles provided important insights into how they balance expectations as content experts with emerging responsibilities as mentors, advisors, and emotional supporters. This focus helped me to address two of my research questions by showing how institutional and cultural contexts influence the support AGS receive in practice. The interview data revealed a significant shift in how university teachers perceive their professional identities. A member of the teaching staff (ATSP1) questioned the traditional concept of the teacher as the main source of knowledge:

> Okay. First, I'm not a teacher. Universities shouldn't have teachers... Teaching was a profession 30–40 years ago, where the teacher was the single source of information.

Two teacher participants frame themselves as guides, communicators, and emotional supporters, moving away from identifying as traditional teachers. According to one teaching staff's (ATSP1) view, these roles are increasingly necessary in an educational landscape dominated by digital information and artificial intelligence (AI). For instance, ATSP1 explicitly rejects the title of 'teacher' suggesting that their value lies not in delivering content, but in providing human connection and psychological support that technologies like ChatGPT cannot replicate:

> My role should be my extras which ChatGPT and Internet cannot provide... I must be a guide... for their academic excellence, psychological resilience, academic and career perspectives.

Another teaching staff (ATSP2) shared similar views, describing how they advise students on exams, exchange programmes, and work opportunities:

> I not only conduct lessons, but I also try to motivate them... they ask me about how they can start working... how to improve their English... I help them with searching for materials.

Similarly, another teacher (ATSP3) motivates students by sharing their travel stories and showing how English helped them see the world.

> I start my course with my photos… 'Do you want to be here? Do you want to be there?'... especially IT majoring students, they really get motivated by this.

Based on my own experience both as a student and a teacher, teachers in Kazakhstan do not usually bring their personal life into the classroom, in a traditional sense. As Soviet legacy, traditional classes used to be mostly teacher-centred, prioritising social values as

compliance with hierarchical structures, though this approach is gradually shifting to student-centred approach (Fimyar and Kurakbayev, 2015; Yakavets et al., 2022). According to the university policy document (2024b), the university sees the student-centred learning among their main academic principles, defining it as:

> The system of organising the educational process based on credit technology and the priority of the needs and interests of students. At [the university] this system is also realised through commitment to international experience, joint and double degree programmes, providing opportunities for academic mobility, providing virtual learning centres (VLE) and open online courses (MOOC).

From this point of view, teacher (ATSP3) participant's personal efforts demonstrate a shift towards student-centred pedagogy, as they try to build a bond with students through blending their personal experiences with their official duties of teaching, with the aim to support and inspire as well as demonstrate care and concern for their students.

Another teacher (ATSP4) describes their role as more like a facilitator, a team leader, helping students to move forward together as a group:

> Now I feel that myself like a communicator... my role is to organise my course in such a way that will be very clear to this group and take this group to this journey.

These views align with Knowles's (1975) view where the teacher is assumed as a facilitator of learning and a procedural guide as opposed to content transmitter. Even though teachers are embracing the student-centred approach in teaching, they still indicate the challenges resulting from unsystematic support from the university. Drawing upon teaching staff participants' responses, I conclude that teachers are expected to take on many roles such as mentor, coach, career advisor, academic advisor and emotional supporter, but there is no clear indication of teacher accepting these roles.

Teachers were also frequently identified as pivotal in shaping students' experiences of challenge. Inspiring teachers, who brought energy, real-world examples, and enthusiasm into their lessons, were credited with sparking interest in particular subjects. Similarly, literature (see for example, Makkonen et al., 2022), highlights when teachers inspire and create intellectual engagement in the classroom, it leads to skills development among AGS. Conversely, poor teaching approaches could undermine motivation entirely. As mentioned previously (on page 131), one student (FG2P1) contrasted a schoolteacher who enlivened chemistry with relatable examples against a university lecturer whose discouraging

opening remarks led to disengagement from the subject. Such accounts highlight how students do not object to difficulty of the course, but to exclusionary practices that make learning appear inaccessible or reserved only for a select few. Teacher enthusiasm was similarly described as crucial, with monotone or emotionally detached teaching leading to "zero engagement".

Student (FG4P2) stated: *"If the teacher speaks in a monotone voice with no emotion, it will bring absolutely zero engagement."* These findings align with research on the role of emotional contagion in classroom dynamics (Frisby, 2019). In relation to intellectual stimulation through pedagogical approaches, one student (FG3P1) valued structured course design, arguing that clarity and well-defined syllabi reduced cognitive overload and increased their capacity to engage with challenging content:

> I want to highlight having a clear syllabus. There are many courses in computer science that have their own roadmaps available online, based on the experience of other developers. When a course syllabus aligns with these roadmaps, it's helpful. For example, in a 'front-end course', we had a roadmap from the internet and a course syllabus, and when we compared them, we realized that the online roadmap might take seven months or half a year, but the course syllabus covered the same content in just 15 weeks.

This may suggest that for some learners, intellectual stimulation comes from knowing exactly what to expect and what is expected from them written in the syllabus. A study on syllabus design supports this point that a well-designed, visually engaging syllabus has the potential to enhance students' motivation and foster more favourable perceptions of both the course and the academic teaching staff (Ludy et al., 2016).

5.4 Research Question 2: How does HEI integrate leadership development among academically gifted students through their academic curriculum?

In this section I discuss the analysis of data in relation to my 2nd research question on how HEI integrates leadership skills development among AGS through their programme curriculum. In addressing this research question, I investigated the student responses as to what curricular and co-curricular programmes are available to students, including AGS, which support and promote their development as leaders. It is an important aspect to investigate, since as discussed earlier in Literature Review chapter the Kazakhstani government has invested in gifted schools (e.g. NIS), in the hope of nurturing the future leaders of the nation. In the following section I discuss the programmes and opportunities available to students in the university that have potential to enhance their leadership skills.

5.4.1 Leadership Development Opportunities

Institutional Vision for Leadership and Global Citizenship

The university positions itself as producer of global citizens with strong academic and social skills. This was evident by the University Policy Document (2024b), where it states:

> The University fosters the development of social skills along with academic skills in the process of producing graduates who can become global citizens and understand holistic education and sustainable development based on its values that contribute to the betterment of our country and humanity as a whole, through quality education and learning in line with the University's mission.

The emphasis on combining academic and social skills suggests a holistic educational model, where intellectual growth is complemented by emotional and social intelligence. This positioning aligns with research that conceptualises leadership development as a holistic outcome of academic, social, and civic engagement in higher education (Astin, 1999; Komives et al., 2009). Further, the term "global citizens" indicates the university's aim to produce graduates who can engage with local as well as global issues, contributing to sustainable development goals proposed by the United Nations. The university is positioning its graduates as leaders who can operate in international contexts, potentially influencing policy, innovation, or social change on a global scale. The findings also

suggest a broadening understanding of what constitutes leadership and giftedness. One executive board member (EBMP1) suggested that students' growing involvement with global issues and engagement with the United Nations Sustainable Development Goals, could reinforce rethinking the concept of giftedness, highlighting a shift from a narrow academic lens to a more holistic conception of leadership potential: *"Our students are becoming more involved in global issues… maybe we should start utilising the term gifted for such students."* This comment reflects a potential shift in the institutional understanding of giftedness, which extends the academic achievement to encompass social awareness and global responsibility. In relation to *RQ2: How does HEI integrate leadership development among academically gifted students through their academic curriculum?* – this perspective may suggest that leadership is being conceptualised as an integral attribute of giftedness, particularly when students demonstrate initiative and engagement with global challenges. Such a view aligns with the university's policy emphasis on developing "global citizens" who contribute to sustainable development. However, while this reconceptualisation signals an important institutional direction, the evidence suggests that leadership development remains largely implicit and unevenly embedded within the academic curriculum. Translating this aspirational vision into practice requires clear pedagogical strategies, explicit learning outcomes, and coherent assessment mechanisms, which emerge as a recurring challenge across the findings.

Curricular Leadership Development: Classroom-Based Practices

Based on teacher responses, it was revealed that four teaching staff reinforce leadership skills development, particularly by group work, peer work and project-based learning in their taught courses. Two among five teachers also admitted their courses *"did not focus on leadership"* and *"were not explicit in the learning outcomes"* of their taught courses. One teacher (ATSP2) shared, *"Some of my students really struggled… but then they learned how to manage relationships within the group,"* highlighting the role of teamwork in fostering leadership capabilities. They (ATSP2) further described how initially struggling students eventually learned to *"manage relationships"* within the group, highlighting how teamwork fosters interpersonal and organisational skills.

Group projects within classes also offer a platform for identifying and nurturing emerging leaders, as described by another teacher (ATSP3): *"I try to activate them by selecting the most active students and saying that you have to assign the roles."* Moreover, one executive board member (EBMP2) highlighted that there is an institutional trend toward

integrating team-based approaches (e.g. assigning team lead, pair work, team management) even in traditionally lecture-driven courses. They (EBMP2) indicated that these approaches can provide support for enhancing leadership, especially in third and fourth year of study, even though noting that not every course requires integration of team-based approaches (e.g. in theory-based courses). These practices reflect well-established findings that leadership is most effectively developed through experiential and collaborative learning environments (Astin, 1999; Komives et al., 2006; Day et al., 2014).

Guest Lectures and Role-Modelling in Leadership Formation

Guest lectures and professional engagement were also cited as important mechanisms for modelling leadership. Faculty frequently invite industry experts and external speakers to speak to students and to expose students to role models, providing opportunities for reflection and professional identity development. As one teacher (ATSP4) noted, *"I try to invite some guest speakers from industry to develop their leadership skills,"* underlining the value of exposure to role models. Another executive board member (EBMP2) also confirmed this practice stating:

> We have opportunities in all faculties to invite some speakers and guest lecturers so that they can influence and support students.

Exposure to professional role models contributes significantly to students' employability and career socialisation (Pepple et al., 2025). Guest lecturers, when integrated into course design, act as living examples of leadership in practice. However, literature cautions that the impact of guest lectures in face of industry leaders may be limited in knowledge and theoretical foundations necessary for the profession (Pepple et al., 2025)

Leadership Beyond the Classroom: Co-curricular and Experiential Opportunities

Leadership was also cultivated beyond the classroom through co-curricular activities. One teacher (ATSP1) described *"projects, debates, and case competitions"* as spaces where AGS students could develop their *"leadership skills, conflict management/resolution and communication skills"* (Hillard, 2010). Teaching and research assistantship roles (Astin, 1999) and other responsibilities were suggested by teachers and executive board member participants as additional avenues for nurturing leadership among AGS. The university policy (University Policy Document, 2024b) further reinforces this commitment by emphasising global awareness, sustainable development, and civic responsibility:

> The University focuses on students' respect for the world, their society and national identity by promoting the United Nations Sustainable Development Goals, the cultural heritage and values of our country. In addition, the University utilises modern approaches necessary for students to learn about the world and understand global issues. The University offers a special discipline as a University Component to enable all students to take a confident step into their future locally and globally, to take their rightful place in the global community and to make a significant contribution to society.

This statement demonstrates how the university is committed to developing leadership skills among their students and positions them to take a holistic approach in student development.

Students' Conceptions of Leadership and Identity Development

The findings from the focus groups highlight the complexity of how students perceive, experience, and develop leadership skills during their higher education studies. Hilliard (2010, p.93) defined student leadership at the university as "the art of motivating a group or team of people to work toward a common goal based on the needs of the organization or university." Participants expressed varied and sometimes conflicting definitions of leadership. These range of understandings may suggest that students hold no singular conception of what leadership entails, with many experiencing uncertainty or confusion about the construct. Haber (2012) also noted that there is considerable divergence in opinion concerning both the conceptualisation of leadership and its practical enactment, linking it to the demand across diverse context. For some leadership was primarily seen as increased responsibility, while others perceived it as a position of authority or control. One student (FG1P2) equated leadership with responsibility and autonomy, often linked to their internship experiences. responsibility in an internship they participated in: *"These activities improved my leadership skills because you take more responsibilities and do something on your own."* Another student (FG3P1), however, adopted a more task-oriented and control-based perspective, where delegation and authority were central:

> I kind of did most of the job, and said 'you are going to say this, and you this.' So that's how we defended our project.

The same student (FG3P1) also questions the need for leadership skills development among all students, stating: *"Some people may not even need leadership skills, and perhaps not everybody at work wants to be a leader."* This response captures an untrendy yet genuine truth that needs to be accepted: not everybody will become leaders, not

everybody wants to be a leader, and not everybody needs to be a leader. This raises a question whether the gifted schools which are working on cultivating the future leaders of the country maybe need to consider looking at leadership traits along with their selection test while selecting them at the initial stage.

Challenges in Leadership Development: Hidden Curriculum and Assessment Tensions

A study by Muammar (2015, p.151) highlighted that "educational institutions should embed leadership development into curricula and extracurricular activities to prepare gifted students for successful career paths and leadership roles." The challenge lies in the increasingly popular educational strategy of embedding skill development across the curriculum, in other words known as the hidden curriculum. This may not always be transparent to students. While institutions intentionally build leadership opportunities into various courses, in the form of group projects, collaborative assignments, or team presentations, the learning objective often remains implicit. As a result, students may see these tasks as requirements for a course grade, focused exercises designed to teach and refine leadership skills. This statement was further complemented by one executive board member (EMBP1): *"it has been naturalised in all areas and therefore has been eliminated as a course"*. They further emphasised, *"leadership skills can be seen in any other courses or projects,"* suggesting that leadership is organically cultivated through collaborative tasks and role assignments, having effectively integrated into the disciplines. Because of this, students' may be acquiring skills without being aware of it. However, eight out of thirteen focus group participants indicated group projects and internships as curricular mechanisms effectively integrated by HEI to develop their leadership skills. FG1P2 strongly emphasised internships as structured experiences within the curriculum, explicitly describing leadership growth through tasks requiring organisational and decision-making skills:

> Internship is the most useful thing that was in the programme curriculum… We had challenging tasks like organising Chemistry and Biology Week at school… I think my leadership skills have developed even more.

Having reviewed the university website (n.d.) on compulsory and elective courses in all offered programmes, at least two internships (practice) were identified as compulsory components of each programme, which means the internship opportunity is available to all students. Students FG1P1 and FG1P3 mentioned group projects as structured yet

challenging opportunities requiring practical leadership skills like delegation and task management. Student (FG1P3):

> As a group leader… I had to do something to make [shy groupmates] work… this activity probably influenced and improved [my speaking skills] a lot.

Internships and group projects were the most cited curricular mechanisms that foster leadership development. Internships, in particular, were described as structured yet challenging environments that required decision-making, organisation, and problem-solving. Group projects were similarly acknowledged as opportunities for practising delegation, communication, and conflict management. However, participants also noted that the graded nature of these activities often positioned them as evaluative tasks as opposed to genuine opportunities for growth, creating tension between assessment and authentic leadership abilities development. This tension is well documented in the literature, with researchers noting that summative assessment of group work often encourages strategic, grade-focused behaviours that inhibit risk-taking and authentic leadership development (Boud, Cohen and Sampson, 1999).

Leadership in Personality, Inclusion, and Curriculum Design

Another issue concerned the role of personal traits in leadership development. While one participant (FG2P2) suggested a balanced perspective on practical leadership styles, emphasising that leadership is learnable through practice and reflection: *"Leaders are not born, they are made… everything we come through helps create our personality as a strong leader."*

Another student (FG2P1) expressed self-doubt about their suitability for leadership. They pointed out that they are introverted and caring, and questioned if these qualities could limit or actually make them become better leaders:

> Honestly, I am a little bit scared of being a leader. However, I love taking care of others… I don't know whether a leader should have a personal trait like caring or not.

A different student (FG3P2) challenged stereotypes around introversion, advocating introverted students can equally develop strong leadership skills with appropriate support and through activities like volunteering:

> Just because a person is introverted doesn't mean they're antisocial. An introverted person can handle conversations as well as an extroverted person. The main difference is that introverts need time to recharge after a lot of communication. I believe introverts can be good leaders too.

These student reflections both align and build on existing research about compassionate and caring leadership. Poorkavoos (2016) describes compassionate leadership as being based on empathy, care, self-awareness and sensitivity to others, arguing that these qualities are essential leadership strengths rather than personal weaknesses. From this perspective, FG2P1's uncertainty about whether being "caring" suits a leadership role appears to stem from common leadership stereotypes that value confidence and extroversion. In contrast, FG2P2's view that leadership develops through experience and reflection supports Poorkavoos' argument that leadership is something that can be learned over time and shaped by personal values and lived experiences. In a similar way, Martinek et al. (2006) show that supportive and caring environments help individuals develop leadership skills regardless of their personality, including those who are more introverted. This supports FG3P2's challenge to the idea that introverted people cannot be effective leaders and highlights how structured activities, such as volunteering, can help students build confidence, communication skills and a sense of leadership capability. These views may suggest that caring qualities and reflective thinking can support leadership development instead of limiting it, and that compassionate leadership can emerge from many different personality types when the right support is in place. At the same time, differences in students' views highlight how complex leadership identity can be. Personality traits clearly influence how confident students feel and whether they see themselves as potential leaders, with some viewing traits like introversion or caring as weakness. This tension reflects wider messages about what a "good leader" is expected to look like. As a result, the findings point to the need for the university to offer leadership development opportunities that are inclusive and flexible, recognising different personalities and providing varied ways for students to engage with and grow into leadership roles that suit them.

Another issue raised is that there is a contradiction regarding how to integrate leadership within academic curricula. Student participants held mixed views about the integration of leadership training within the formal academic curriculum. While most participants see the benefit, the method of integration is debatable. Students FG2P1 and FG2P3 supported elective-based approaches, warning that mandatory leadership courses could overwhelm introverted or less confident students. Student (FG2P3) stated: *"Introverted people…*

attending such courses and being in such environments may negatively affect them."

Another Student (FG2P1) stated:

> I don't think it is essential to integrate this into the academic curriculum… but I don't mind attending it if there was an elective course.

In contrast, FG3P2 argued strongly for structured curricular inclusion, seeing formal leadership courses as vital to building transferable skills such as confidence and public speaking:

> I really think during the studies in university it is really important to add some courses like leadership… to build confidence and presentation skills.

Students have different views on leadership based on their personalities. Introverted or reserved students expressed concern that required leadership classes could overlook their strengths or cause them extra stress. Instead, participants were more inclined for such classes to be offered as an elective course. However, this does not indicate that all introverted individuals are incapable of being a good leader.

Regarding the preference of contexts for leadership development, several participants indicated the preference in extracurricular settings over structured classroom activities for leadership development, as the extracurricular activities provided more authentic and impactful contexts for leadership development. Participants described these environments as less forced, more flexible, and more conducive to meaningful leadership practice compared to classroom-based group projects. The preference for extracurricular settings reported by participants mirrors findings by Eich (2008), who identified 'student-centred experiential learning' as a defining attribute of high-quality leadership programmes, along with 'building and sustaining a learning community' and 'research-based continuous programme development'. Dugan and Komives (2010) suggest that students' development of socially responsible leadership is strongly shaped by socio-cultural discussions with peers, mentoring relationships with faculty, and involvement in community service activities. Astin's (1999) student involvement theory emphasises that the amount and quality of a student's physical and psychological engagement in college through academics, extracurricular activities, and interactions with faculty, directly influences their learning and personal development. From an educational perspective, the theory suggests that the effectiveness of any policy or practice depends on its ability to enhance student

involvement. Taking a role as a head of one university-based student club, one student (FG4P1) highlighted a development of their problem solving and organisational skills:

> I was a head of one club… This experience influenced me to develop problem-solving and organisational skills. But in classes… I prefer to work individually.

Students who take on leadership roles, such as team captains or club officers, are more likely to follow managerial career paths, achieve success in those positions, and earn higher salaries (Kuhn and Weinberger, 2005).

A different student (FG4P2) similarly criticised formal classroom group work as ineffective for authentic leadership practice, instead highlighting teaching experiences outside formal classes:

> The first time I felt like I kind of upgraded my leadership skills was when I started teaching students myself… I realised there are people looking up to me.

Student (FG4P2)'s critique of classroom-based leadership activities reinforces earlier findings that AGS value autonomy and self-directed growth. While formal group work was viewed as forced and ineffective, authentic leadership development emerged through real teaching experiences, where responsibility and recognition felt meaningful. This aligns with students' earlier emphasis on pursuing self-directed challenges to avoid stagnation. Such patterns reflect principles of self-directed and experiential learning, where meaningful development occurs through ownership and real-world engagement (Knowles, 1975; Kolb, 1984), and are consistent with Self-Determination Theory, which highlights autonomy as central to intrinsic motivation and wellbeing (Deci and Ryan, 2000). Together, these findings indicate that leadership development among AGS is most effective when it is voluntary, experiential, and supportive, reinforcing the interconnected nature of leadership and student wellbeing. These perspectives show that classroom-based leadership training in universities might not always work well. Students may find these activities too forced or feel they do not have enough freedom. As a result, they often look for more real and meaningful leadership experiences outside the classroom.

Leadership Development through Competitions

Competitions also serve as developmental opportunities, with staff describing how they prepared selected groups of students for national contests, particularly in accounting and related fields. One teacher (ATSP4) reported that *"each year we try to prepare a group of*

students who are participating in the yearly country contest in accountancy." Snellman et al. (2014) also highlighted that inter-school level competitions cultivate perseverance and a robust work ethic among students, while simultaneously enhancing the social capital of student-athletes through their interactions with coaches, teachers, and academically oriented peers. These efforts particularly engage motivated AGS students, such as those from NIS schools, who have shown increased involvement in the last 5 years. Even though this may sound that such opportunities are only available to a selected few, such as NIS graduates only, in fact during the interview teachers (ATSP4) indicated that participating in a contest is accessible to all students who show interest and capability. Coincidentally, those who show interest are mainly NIS graduates. He further added, that prior to 5 years, BIL school graduates dominated in participating in these national contests.

Taken together, these findings illustrate that students' leadership development is shaped by a dynamic interplay of personal beliefs, curricular structures, and co-curricular and extracurricular opportunities. While the university can provide formal mechanisms such as internships and group projects for leadership development, students often perceive these as assessment driven. In contrast, less formal co-curricular and extracurricular contexts were experienced as more authentic and empowering. Furthermore, students' varied perspectives on leadership, whether rooted in responsibility, authority, or personal traits, demonstrate the need for university to adopt a flexible, inclusive approach to leadership development that recognises diverse learner identities and preferences.

5.4.2 Leadership Development Programmes

At the institutional level, several formalised initiatives provide structured leadership pathways for high-performing students. Selection for these opportunities is typically merit-based, with good standing GPA among other criteria.

1. ***Mugalim Project***

Executive Board Member (EBMP2) highlighted the positive impact of partnerships with external organisations in enhancing both student development and the university's infrastructure through targeted investments in university premises. He noted that collaboration with the *Mugalim Project*, an organisation dedicated to training and re-training teachers across the country, enables "promising students" to engage with national education reform initiatives. These opportunities cultivate leadership and professional

identity by immersing students in authentic, real-world contexts where they can apply their academic learning to socially meaningful projects. Such initiatives embody the principles of *experiential learning*, as students move beyond theoretical understanding to active participation in knowledge construction through experience and reflection. This alignment with experiential and project-based pedagogies reinforces prior findings that engagement in real-world problem-solving fosters deeper learning, motivation, and retention (Bauerle and Park, 2012; Marley, Siani and Sims, 2022).

2. Minor Programmes

A minor programme, also known as the programme of additional education, is a selection of courses, modules, and other educational activities that students choose to complete. The purpose is to develop additional skills and knowledge beyond their primary field of study. In a university policy document (2025c) on teaching the programmes of additional education (minor) it is described as:

> a set of disciplines and (or) modules and other types of educational work determined by the student for training in order to form additional competencies.

These minor programmes in fields such as management and inclusive education offer academic pathways where leadership is explicitly emphasised. As EBMP2 noted: *"We have management and other courses for leadership... we have a programme for management in education."*

3. Beta Career/Edu Career

Both **Beta Career** and **Edu Career** programmes serve as structured work-integrated learning initiatives aimed at enhancing students' employability through practical engagement in real-world settings. The student responses provide valuable insight into how these programmes contribute to academic and professional development, particularly in relation to skill enhancement, responsibility, and leadership growth.

The Beta Career programme was consistently described by participants as a selective initiative designed for *high-performing students* with strong academic and practical capabilities. As one executive board member participant (EBMP1) indicated, the programme caters to students "who have academic capacity and skills," suggesting that

entry into the programme is merit-based and linked to academic achievement. This selectivity could contribute to maintaining high standards and ensuring meaningful engagement between students and host organisations.

Participants also highlighted the practical benefits of the programme. According to two student participants (FG3P1, FG3P2), students gain practical work experience during their third or fourth year of study while simultaneously fulfilling elective course requirements. This integration of work experience with academic credit demonstrates a strong alignment between learning outcomes and professional practice. For instance, FG3P2's comment that "thanks to this programme you can close your elective courses" indicates that the Beta Career structure allows for the recognition of experiential learning within formal curricula. Moreover, students' engagement with real workplace environments provides opportunities to develop transferable skills such as communication, presentation, and problem-solving and present these learning outcomes upon the completion of the programme. FG3P2 stated: *"You do a presentation about what you have learned"* The student responses suggest that Beta Career effectively enhances students' employability and career readiness by combining academic knowledge with practical exposure, fostering a smooth transition from university to professional life.

The Edu Career programme, designed for students pursuing teaching careers, similarly integrates academic learning with practical fieldwork. The student response (FG1P2) demonstrates how participation in the programme fosters *leadership development* and *professional identity formation*. Through their placement at Dostyk School in Almaty, the student encountered real-life challenges that required initiative, decision-making, and teamwork. FG1P2 stated:

> I think that my leadership skills have developed even more because we had some challenging tasks like organising Chemistry and Biology Week at school.

Students' accounts of organising events such as the Chemistry and Biology Week illustrate how Edu Career can promote the development of organisational and leadership skills. Additionally organising an excursion to a medical university for school students, coordinating with peers, and adhering to an allocated school budget reflect managerial and interpersonal competencies. As she explained, "these activities improved my leadership skills because I took more responsibilities and did something on my own," suggesting that autonomy and accountability were key learning outcomes. This aligns with experiential learning theory (Kolb, 1984), where active engagement and reflection on real-life

challenges enhance both cognitive and affective learning domains. The financial management and decision-making components of the student's experience also indicate growth in professional responsibility and ethical awareness, which are vital in educational settings. While both programmes share a common goal of integrating academic learning with professional practice, their focus areas differ. Beta Career emphasises industry readiness for various professional fields, whereas Edu Career centres on pedagogical practice and leadership in educational contexts. These insights highlight the potential effectiveness of work-integrated learning in cultivating well-rounded graduates equipped with both disciplinary expertise and transferable skills such as leadership, teamwork, and problem-solving.

4. Zhas Maman

Further, for AGS pursuing academic careers, the Zhas Maman (Training of Young Specialists (TYS)) programme was identified as a pathway for students to enter academia as a member of staff. This programme offers structured mentorship, teaching roles, and pathways into graduate education. It is designed for students who are in their final year of undergraduate study and master's students. The selection process is rigorous, involving multiple levels of faculty review and commitment interviews. As EBMP2 noted:

> They (Faculty/School) start to work with these bright students in the 4th year… then we invite them to become our Zhas Maman.

This programme offers mutual benefits for both the university and the student: the university gains a highly skilled, dedicated, and reliable employee with strong institutional commitment, while the student secures a permanent academic position within the university, allowing them to begin a career in academia. Unlike temporary roles, this position is permanent and comparable to teaching or research assistant roles commonly found in Western universities.

University policy document (2024c) in relation to the Zhas Maman programme is aimed at forming and developing a pool of talented graduates (University policy document, 2024c). The successful candidates are provided with comprehensive training, mentorship and opportunities for professional growth. The overall selection process seems to lack transparency as the initial stages are based on recommendations and there is considerable bureaucracy involved in identifying the most suitable candidates. The GPA requirement for programme candidates is 3.0. Additionally, this opportunity is also available for students at

other universities who wish to participate in the programmes. However, the justification for such a decision is missing in the policy documents analysed. The workload responsibilities are stated as 50% academic, 25% research and 25% social work. However, there is no clarity in what exactly expected for each category. The candidates are given advisory service to 30-50 students. However, as stated in section 6.5.2 of Chapter Six, if one academic advisor has too many students, the productivity in responding to and getting to know each student becomes challenging. Finally, the programme lasts for 2 years on a contract basis signed by both parties. Overall, even though the Zhas Maman programme seems to be a promising opportunity for talented students with ambition to pursue academic career pathway, the policy documents would benefit from revision in both selection process and rights and responsibilities of parties.

5. Edu Innovate

For those students focused on research more than social involvement, Edu Innovate was identified as a way of gaining experience in participant (EBMP3) responses. This programme provides an alternative leadership path through laboratory work, paper publications, and academic collaboration. Executive board member (EBMP3) stated: *"We are planning to involve more students for research… help them publish their articles to local journals."* While not explicitly labelled as leadership training, these initiatives nevertheless develop professional influence and intellectual leadership skills, providing a great opportunity for those gifted individuals who do not see themselves in organisational leadership and consider themselves to be engaged in an academic path. No documented evidence was found regarding this programme in the university policy documents. This may be due to the programme having been launched recently and currently only available to the students of one particular Faculty.

6. Student Self-Government

Two executive board members (EBMP2; EBMP3) indicated that leadership development among students is further enhanced through student government, where students hold elected positions such as President, Prime Minister and various Minister roles. This is similar to the Students' Representative Council (SRC) within UK universities. This appears to be a valuable opportunity for students to participate in decision-making at the student level, serving as a bridge between student concerns and various university departments. However, it can be assumed that the number of positions available in the

student government for each faculty is limited relative to the total student body, which may prevent many interested students from gaining leadership experience through this route. ATSP4 observed that *"usually academically gifted students are leaders"* within these structures. According to the university policy document (2019), the objectives of the student self-government (SSG) is:

> The formation of citizenship of students, the ability to work in the conditions of modern society. As well as meeting the educational, cultural, creative and organisational needs of students, creating conditions for patriotic education of students.

Further specific goals are listed below:

1. Organisation and conduct of educational work.
2. Social, legal and economic support for students of SSG.
3. Support and development of students' scientific interests.
4. Useful Organisation of students' leisure.
5. Organisation of charity events in the Republic of Kazakhstan and foreign countries.
6. Organisation of activities to ensure additional employment of students.
7. Health and sports work.
8. Information and methodological work.
9. Main directions of SSG.
10. Coordination of the work of student organisations of the university.
11. Representation of students at the university.

At the institutional level, leadership development for AGS is embedded across diverse co-curricular programmes, even though these initiatives are not formally labelled as being for the "gifted". These are evident by university policy documents (2024c; 2020; 2025a; 2019) analysis on programmes such as: Zhas Maman, Mugalim Project, Beta Career/Edu Career, minor programmes, as well as other programmes mentioned by the teacher and student participant (e.g. Enactus, Internship). According to the university documents (2024c; 2020; 2019), selection on to these specific programmes is typically merit-based; a good standing academic performance in the form of GPA, letters of recommendation, sound knowledge of a foreign language (B1 or higher) are expected from the candidate. Collectively, these programmes reflect a holistic, multi-pathway approach to cultivating leadership among some AGS, recognising that leadership can take academic, professional, organisational,

and entrepreneurial forms. The current system meets varied interests, from student government to scientific publication, and aligns leadership development with student goals and institutional needs. These university programmes, regulated by university internal policies, and targeted at student development are linked to **exosystem** (see p.64) proposed by Bronfenbrenner's (1979) Ecological Systems theory. The exosystem encompasses a range of formal and informal social structures, including civic institutions, extended social circles, and mass media. Although the AGS does not actively participate in these settings, these external environments exert a significant influence on the dynamics of the student's immediate microsystems.

Taken together, the findings show that the institution applies a multi-pathway approach to leadership development. Opportunities are embedded across teaching practices, extracurricular activities, partnerships, and structured programmes. Leadership is conceptualised in diverse forms: academic, professional, organisational, and entrepreneurial, and is intentionally aligned with both student interests and institutional priorities.

5.4.3 Leadership in Practice: Distributed or Absent?

The findings in Section 5.4 reveal a university that talks about leadership in distributed terms but does not always practise it as such. For example, the institutional vision, articulated through policy document (2024b) and by two executive board members (EBMP1, EBMP2) positions leadership development as a shared, organisation-wide responsibility, where "global citizenship" is cultivated through curriculum, guest lectures, and team-based classroom structures. This framing aligns closely with the distributed leadership model discussed in Section 3.5.2 (Harris, 2013; Bush, 2012), in which leadership capacity is spread across the institution rather than concentrated in a single office. One executive board member (EBMP2) described a growing focus on assigning team leaders, pair work, and team management tasks even in lecture-based courses. This reflects Bush's (2012) view that effective teamwork depends on leadership responsibilities being shared so that outcomes do not depend on just one individual. However, simultaneously, the findings seem to highlight a gap between the university's stated approach and what happens in practice, which Harris (2013) identifies as a common challenge. This was perhaps exemplified when two teachers explained that leadership was not an explicit focus of their courses and was not included in the learning outcomes. This may suggest that leadership development is not consistently embedded or made explicit

across the university. A similar pattern was reported by Amjad et al. (2025), who found that *empowering teachers* was the weakest area of leadership in the universities they studied. Teaching staff in this study, similarly described leadership-relevant responsibilities, including mentoring, informal wellbeing support, extended lesson preparation, as expected of them without corresponding recognition, incentive, or structured support (see Section 6.4). Where Harris (2013) distinguishes between distributed leadership as *task distribution* and as *distributed influence*, the evidence here suggests the former is present (teachers and students are assigned leadership-adjacent tasks) while the latter is not consistently supported (the influence, recognition, and resourcing that would make this distribution meaningful remains concentrated elsewhere).

Students' own conceptions of leadership, meanwhile, reveal a divide that maps onto the individual-versus-distributed distinction outlined in Section 3.5.2. One student's (FG1P2) framing of leadership as "responsibilities" taken on through autonomy resonates with the collaborative, shared models, as described by MacBeath (2003). Whereas another student's (FG3P1) account of "I kind of did most of the job, and said 'you are going to say this, and you this'" is closer to a transactional or even authoritarian model of leadership, which can be described as a delegation and control exercised by an individual over others. A student's (FG3P1) further comment that "not everybody at work wants to be a leader" implicitly challenges the assumption, embedded in the university's own "global citizen" vision, that leadership development should be a universal expectation of all AGS. However, it is unclear whether this expectation has been communicated to the AGSs.

Overall, these findings may suggest that while the university promotes the idea of distributed or shared model of leadership, in practice the way students experience and enact leadership, remains closer to the individual-led models. The following section provides further insights into how extracurricular activities could enhance leadership development among gifted students at the university.

5.5 Research Question 3: How do out-of-class opportunities support the leadership skills development of academically gifted students in HEI?

This section discusses the focus of my research specifically on leadership skills development of AGS within the university, with emphasis on out of class activities or extracurricular activities offered for students through various clubs. All three Executive Board Member participants and five teaching staff participants repeatedly highlighted that the university pays a lot of attention to extracurricular activities for students. The university demonstrates a strong commitment to supporting extracurricular engagement, with over 40 active student clubs and the recent investment in a dedicated building for such activities. As described by one executive board member (EBMP3), *"Everybody can find something interesting for them."*

5.5.1 Holistic Development through Extracurricular Involvement

Extracurricular activities are widely recognised as a means of fostering civic engagement and leadership skills in youth who can contribute to democratic society by developing teamwork, resilience, and a capacity to bridge social and economic gaps (Snellman et al., 2014). Similarly, the findings of the current study indicate that extracurricular activities play a central role in the personal, social, and professional development of AGS. While formal curricula remain important for academic advancement, participants consistently recognised extracurricular engagement as critical for developing leadership skills, soft skills, and holistic growth. Framed through Gagné's Differentiated Model of Giftedness and Talent (DMGT) (See section 4.2), these activities can be understood as *environmental catalysts* that provide authentic contexts, opportunities, and support systems necessary for gifts to evolve into tangible skills.

In the preceding section it was noted that the university's collaboration with the *Mugalim Project* prompted significant infrastructural developments within the institution. Participant data further highlighted the institutional investment in infrastructure, including new spaces for clubs, offices for extracurricular activity, and dedicated social areas, contributing to the creation of environments where students can organise, collaborate, and lead initiatives. To better understand the strategic purpose of this new building and its role within the broader institutional framework, I sought additional documentation. However,

no official policy or institutional documents addressing this initiative were identified. Even after contacting the university's legal department for clarification, it was confirmed that no formal records pertaining to the new building exist, leaving the rationale and governance surrounding this development unclear.

Eight focus group participants out of thirteen widely acknowledge the significant role of extracurricular activities in personal development. Among the topics they particularly mentioned were leadership development, hard and soft skill acquisition, networking opportunities, self-discovery, and emotional and social growth. Combined they can be addressed as holistic development of students. The participants across different focus groups explicitly recognised extracurricular involvement as critical in shaping leadership. They view these activities as a platform that provide authentic contexts to exercise leadership skills, reflecting positively on their experiences. Student (FG2P3) highlighted how extracurricular events help break social barriers and offer leadership practice in a more natural, informal setting:

> When 10 total strangers gather in one place it is important to show your leadership skills by starting to break the ice first.

Another student (FG4P3) described mentorship roles in clubs, showing extracurricular activities as spaces to develop empathy and relational aspects of leadership:

> I'm a mentor of the first-year students… it helped me to be more supportive, to have more compassion towards others who are not in the same position as me.

Extracurricular activities provide a safer space for students to experiment with leadership roles compared to formal classroom settings. They allow room for mistakes, compassion, and informal mentorship, facilitating genuine personal growth. Even though currently these activities are not assessed in any formal way, the university is developing a system for such extracurricular involvement to be displayed in students' transcripts, called "integral GPA". This will be possible by collecting information about students' involvement in social activities. One of the executive board member participants (EBMP2) highlighted it as university's goal:

> We are already designing the Europa Standard Transcript. So, this transcript includes some extracurricular activities, so the head of a club or a member of that one, etc. … integral GPA is actually one of the goals for us to do and understand.

This innovation is also confirmed by university policy document (2024b), where it explicitly states:

> The University, through the integral GPA system, demonstrates the social engagement and social development of students and systematically promotes their personal development.

EBMP1 also confirmed this statement, indicating that extracurricular involvements of students will be valued along with formal education records:

> Earlier only academic achievements were shown, now GPA of social activities and social work will also be shown (on the transcript). Therefore, students will build their portfolio of volunteering work.

These institutional plans to introduce an "integral GPA" system, emphasise the value placed on extracurricular activities. By formally documenting involvement in clubs and volunteering, the university elevates these experiences to the same level of recognition as academic achievements. This recognition represents an institutional acknowledgment that leadership and other soft skills are legitimate *talents* emerging from extracurricular participation and should be measured and rewarded accordingly.

Another dimension on looking at the involvement in extracurricular activities was social and professional networking. Focus group participants perceived networks formed through extracurricular activities as crucial for professional and career opportunities. FG2P1 highlighted networking as a direct gateway to professional opportunities, emphasising practical advantages:

> Nowadays networking is one of the most significant things... I have a teacher who got accepted into 3 internships in the USA, Japan, even in England, because she communicated with a lot of people who were in the internships.

FG4P3 also suggests networking has practical value, stating:

> When we need some help from IT specialists or from international relations... we can contact and take advantage of each other.

Eccles et al. (2003) argue that participation in extracurricular activities fosters social ties that are associated with enhanced academic outcomes, alongside benefits for wellbeing, sound decision-making, and prosocial behaviour. Consistent with this perspective, participants in the present study strongly linked extracurricular engagement to

opportunities for social and professional networking, which they viewed as critical to future career success. They noted that relationships formed through clubs and voluntary activities may facilitate access to internships, collaborative opportunities, and ongoing professional support.

Extracurricular engagement was also described as transformative for personal identity. Students reported overcoming shyness, gaining confidence, and developing new self-perceptions through club involvement. These experiences illustrate how extracurriculars provide the *intrapersonal catalysts* (e.g., motivation, perseverance, self-confidence) that interact with environmental supports to drive the transformation of giftedness into talent. Student (FG1P1) illustrated a clear transformation in personality, moving from reserved to confident: *"I was more reserved before, but now I feel more confident when speaking to a group of people."* Student (FG1P1)'s experience shows that leadership development can positively influence even those identified as reserved students, helping them grow more confident. As mentioned previously, reserved students preferred leadership courses as electives rather than being a compulsory course. The shift from feeling "more reserved" to being "more confident when speaking to a group" may suggest that, although introverted students may feel worried that compulsory leadership classes could cause stress or ignore their strengths, these concerns do not mean they lack leadership potential. Instead, reserved students' preference reflects a desire for choice and comfort. Therefore, these findings reinforce that introversion should not be equated with poor leadership potential; instead, when supported appropriately, introverted students can develop effective leadership skills in ways that align with their personal styles and comfort levels. Student (FG4P3) echoed similar views, explaining a profound shift in their personality due to club participation:

> In high school, I was very shy, but this [university] club made me more open and taught me communication skills, time management, and organisation.

It appears that some students, as evidenced above, use extracurricular spaces to experiment with and reconstruct their identities. The data suggests that extracurricular activities can serve as a mechanism where students can intentionally or unintentionally address their insecurities, offering a safe and socially acceptable environment.

As the formal education pertains to professional growth and development of hard-skills, students consistently recognise extracurricular activities as critical to soft-skills development. FG1P2 directly acknowledges soft skills development: *"I attended the*

Russian Debate Club. It improved my public speaking skills and helped me express my thoughts concisely." The findings also reveal disciplinary variations in the perceived value of extracurriculars. While accounting students (FG2P2) emphasised their importance for showcasing versatility and employability, framing it as: *"You can mention those extracurricular activities in your CV, which shows how flexible and versatile you are.",* a computer science student (FG3P1) prioritised hard skills, dismissing extracurriculars as less relevant: *"For computer science, hard skills are more important... I prefer to improve [soft] skills without extracurricular activities – through courses."* They (FG3P1) resist participating in personal development activities because they see them as less important compared to their main studies. Karimi and Pina, (2021) indicated that softs skills gap is increasing among Science Technology Engineering Maths (STEM) programme students. This could suggest that the university has not effectively communicated how extracurricular activities could directly benefit STEM students. As a result, these students might underestimate the value of soft skills, even though these skills are critical for their future careers (Karimi and Pina, 2021; Holik, Sanda and Molnár, 2023). Further this may suggest that in certain disciplines, the catalytic role of extracurricular activities may be undervalued or overlooked, suggesting for closer work between university, employers and students (Karimi and Pina, 2021). Literature (see for example, Karimi and Pina, 2021; Holik, Sanda and Molnár, 2023; Ballatore and Tabacco, 2024) highlights that skills such as leadership, human connection, communication, adaptability, teamwork, critical thinking, problem solving, reliability, resilience, and independent work are essential in within STEM fields, suggesting for HEI to better communicate the need for soft skills development among their students. As Sahin et al. (2015) suggested, providing AGS with targeted support and specialised instruction during their higher education significantly enhances their propensity to pursue advanced degrees and professional careers within STEM fields. From a DMGT perspective, this highlights how the absence of engagement with environmental catalysts can constrain the full transformation of giftedness into leadership talent, particularly in hard-skill-oriented fields. An academic teaching staff member (ATSP4) also highlighted extracurricular initiatives that combine leadership training with real-world project management. They (ATSP4) discussed the Enactus competition for university students, describing it as a global network with 33 independent country offices, a central body, and various partners that support curriculum development, student teams, and funding opportunities (Enactus, 2018). Due to its nature, Enactus competition can be considered both a co-curricular and an extracurricular activity. According to the participant, Enactus centres around the creation of business models or projects,

encouraging interdisciplinary collaboration among students. ATSP4 emphasised: *"It's about bringing up a business model… where all students studying business can be contributing."* Within this initiative, students from different disciplines contribute their expertise: finance students prepare reports, marketing students manage promotions, while management and economics students ensure execution and forecasting. By requiring interdisciplinary collaboration and entrepreneurial vision, Enactus offers AGS students an authentic platform for leadership, with the potential to develop and lead business projects with real investment potential. Bowers and Metcalf (2008) highlighted that employers look for creative thinkers, leaders, and individuals with good communication skills. Case study competitions, such as Enactus, can be a perfect platform for practicing and developing the abovementioned skills, thus supporting the development of these transferable skills. Unlike classroom projects that may be constrained by time or assessment structures, case study competitions offer authentic environments and organic leadership experiences that more closely resemble real-world organisational settings (Burke, Carter and Hughey, 2013). From a DMGT perspective, such experiences reflect how extracurricular activities act as catalysts, transforming students' *gifts* (e.g., academic ability, motivation) into *talents* (e.g., leadership competence, social influence) through real-world practice. Because Enactus is part of a global network, it also extends students' opportunities for professional networking and external recognition, thereby strengthening their leadership development within an international context. From the DMGT perspective, networking opportunities represent *environmental catalysts* that not only enhance immediate leadership practice but also facilitate long-term talent development by connecting AGS to external resources and career pathways.

The university's strategic investments in infrastructure and partnerships have improved services provided within the main building of the institution, including opening a new building with a gym and rooms for extracurricular activities and clubs. Students can further develop their leadership and other soft skills as well as socialise and communicate with peers who have common interests and goals. EBMP1 stated that "currently the university infrastructure is also undergoing renovations." This fosters leadership opportunities to extend beyond the classroom. To further support this statement, below is provided an excerpt from the university policy document (2024b) which states that:

> The University pays special attention to the development of social responsibility and leadership skills of students and to this end implements a number of activities: in the framework of cultural, social activities and support of academic processes, special attention is paid to the formation of leadership, management and organisational skills of students; representatives of the student self-governance government monitor the decision-making process on academic issues; participate in the work of student clubs, provide the necessary support in the work and involvement of students in the work of the University.

The findings demonstrate that extracurricular activities function as crucial catalysts within Gagné's DMGT framework, enabling AGS to transform potential into developed leadership talent. While formal curricula contribute to hard-skill development, extracurricular contexts provide authentic, flexible, and socially rich environments for leadership practice, self-discovery, and wellbeing. The institutional push to integrate extracurricular achievements into official transcripts could reflect a growing recognition of their role in talent development. However, disciplinary differences in perception suggest that more targeted communication is needed to ensure all students, including those in STEM, appreciate how extracurricular experiences contribute to long-term leadership and career success.

5.6 Chapter Conclusion

Chapter Five presented the empirical data gathered during the fieldwork study. The analysis focuses on organising participant responses into specific themes and interpreting these perspectives within the context of relevant literature. I also analysed the participants' voices using appropriate literature. The chapter concludes by the following main points based on the theoretical core concepts established in the literature review chapter:

Firstly, in terms of academic preparedness of AGS, the majority of student respondents did not feel challenged enough at their university studies, stating that the programme curriculum was easy to comprehend. Teacher participants indicated that AGS become bored quickly if not challenged enough academically. They further added that working in mixed ability classes created certain challenges, such as keeping all students intellectually engaged. AGS' prior training experience at gifted schools gave them an advantage in pace of learning, compared to their counterparts from the comprehensive school route.

As to whether the gifted school graduates are the future leaders and elite of the country, the university seem to provide various opportunities for leadership skills development among students, including the AGS. The opportunities highlighted by participants included co-curricular programmes such as attending Olympiads and competitions, inviting guest speakers and public figures, attending internships, as well as enhancing soft skills integrated in the programme's courses, which are required for effective leadership. Along with that numerous opportunities are available via extracurricular activities. These opportunities create a safe space for students to practise and advance their leadership skills. Returning to the distinction between giftedness and talent outlined earlier in section 3.3 in Chapter Three of the thesis, the findings seem to suggest that while participants entered higher education with considerable potential, the university consistently provided institutional conditions to support' systematic development into demonstrable expertise.

Chapter 6 OPPORTUNITIES AND CHALLENGES IN SUPPORT OF AGS IN HIGHER EDUCATION

6.1 Introduction

In this Chapter I continue to analyse and discuss my findings, with a focus on broader issues and reflection on my research questions. Based on the data, my findings suggest that the university lacks clear, consistent, and institutionally supported systems for identifying and providing explicit and direct services for academically gifted students (AGS). I discuss the inclusive practices, particularly using differentiated instructions for gifted learners, as well as acceleration opportunities available to NIS graduates studying at the university, in relation to their 12-year school curriculum programme. I further discuss the equity and inequality issues raised by AGS in the university setting where my study took place. I further discuss teacher professional development and the n2.5ecessity for university to provide such support to university teachers, in particular to those working with mixed ability classes. The health and wellbeing of AGS is also discussed as it emerged as one of the main topics of the AGS higher education experience, which was closely connected to pedagogy and leadership skills development of AGS. The AGS highlighted their concerns about their health and wellbeing, as academic pressures and societal expectations negatively affected them. This section is followed by discussion of the academic advisory system as a mechanism of university support to students, including AGS. In conclusion, I discuss the interplay of pedagogical approaches, leadership development and health and wellbeing and how these three areas are interconnected in supporting AGS in higher education.

6.2 Inclusion and Inclusive Practice

In this section I will address the problems of gifted students being included in policy but lacking inclusive practice in relation to the gifted in the classroom.

Differentiation for Gifted Students

The data consistently showed that all five teaching staff participants chose to support AGS on their own, even though their institution does not require or formally support such efforts. Despite the university's lack of requirement for differentiated instruction, all five teacher participants reported modifying course materials, assignments, or pedagogical strategies to better engage and challenge AGS students. However, this differentiation is repeatedly framed as "extra", a voluntary, unrecognised form of labour that lies outside the boundaries of institutional expectations. This characterisation of support work as optional reflects a broader structural issue: the absence of policy and pedagogical infrastructure for gifted education in the higher education setting. Teachers are operating as informal compensators for institutional gaps. ATSP2, for instance, notes the use of more challenging IELTS-like material and individualised feedback, while ATSP5 has developed an entire bank of extra resources tailored to high-achieving students. They further articulated their personal responsibility and effort as providing a *"conducive environment"* for students. While these efforts illustrate strong individual dedication, they also highlight a structural issue: support for AGS students is not embedded in institutional frameworks but is reliant on individual teachers' motivation, creativity, and available time.

As mentioned previously, the support AGS students receive is largely seen as informal and voluntary, depending entirely on the individual teacher's awareness, initiative, and available time. Examples include teachers providing optional challenging tasks and assignments or differentiating work on their own, with no formal recognition or compensation for the extra effort and resources required. It seems that teachers' extra work and effort is considered as an expectation without formal control by the university. Thus, it creates additional challenges for teachers, as the absence of a formal system forces teachers to make difficult choices, such as pacing classes to accommodate slower learners to prevent widespread failure. This often comes at the expense of AGS students, who may feel bored and disengaged when the pace is not challenging enough. One student (FG4P3), who had IELTS score results equating C1 level of English, shared her frustration stating the following:

> English courses in our university are very boring, because we just sit and go through the book and go through the questions like 'What food do you like?'. Oh my God, are we in first grade?

Numerous studies (see for example, Besnoy, Jolly and Manning, 2021; Cross, 2014; Reis and McCoach, 2000) support this statement, stating that insufficiently challenged AGS could potentially exhibit signs of boredom, including assignment negligence, missing classes, or disengagement in regular coursework. This situation highlights a systemic imbalance in how academic needs of AGS students are overlooked, in favour of standardised support for the majority. Consequently, AGS' potential for higher-level intellectual engagement often remains unrecognised or unsupported by the institution. When support for AGS students is contingent on a teacher's willingness, time, or pedagogical creativity, there is a risk of student experiences becoming fragmented and inconsistent (Hertberg-Davis, 2009). Hypothetically, one student may receive intellectually stimulating assignments and tailored feedback, while another, enrolled in a different course or with a less resourced teacher, may miss out on such opportunity. These efforts appear not to be driven by formal guidelines, but by individual professional ethics, an internalised sense of responsibility that is admirable yet deeply problematic in its informality and inconsistency across courses.

From an institutional perspective, alternative mechanisms for supporting gifted students were highlighted. For example, special academic tracks were available for advanced students starting in their 2nd year at the university. One executive board member (EBMP1) mentioned that these tracks within the major/programme are designed for students with high academic capacity and advanced skills. According to the university website (n.d.), tracks are focused concentrations within a major field of study. They enable students to customise their education to match their career aspirations and personal interests. Each track involves a unique selection of courses and specific requirements designed to offer a deeper exploration of one area of the discipline. Having a closer look into the website, I identified that these tracks were only available to students from the School of Information Technology and Applied Mathematics. There were five tracks available to students: IT infrastructure; Information Security; Data Analysis; Software Development; Business Process Management. Only two out of five explicitly emphasised developing leadership skills among their students. Within the *Business Process Management (BPM)* track of Information Systems programme, the university emphasises the importance of leadership across various roles. It highlights that information systems professionals

need leadership qualities to bridge technical and management communities, while graduates of the BPM programme are expected to understand organisational effectiveness and competitiveness, indicative of leadership capabilities. The curriculum for Business Process Managers explicitly includes “Leadership in IT” as a course, and Business Analysts are tasked with providing leadership, training, and guidance to junior staff. Furthermore, “Leadership skills” are listed as a crucial soft skill for professionals in these fields, demonstrating a pervasive recognition of leadership as essential for success and effective functioning within organisations. The *Information Technologies Infrastructures* track at the university aims to prepare students for successful careers as IT professionals who can make a positive societal contribution. The programme specifically intends graduates to be capable of taking on leadership positions a few years after graduation, or to embark on IT project development or research careers. The curriculum emphasises the development of skills to function effectively as a team member or leader, and common entry-level roles like IT Operations Manager involve significant leadership responsibilities such as overseeing security, managing installations, resolving escalated issues, providing stakeholder support, and managing vendor contracts.

For the local students who spent one semester studying abroad, the Kazakhstani university provided access to MOOC courses, which helped students to complete local compulsory and/or elective courses while studying abroad. This mechanism supported students by preventing them to fall behind their peers in course completion upon their return from the exchange programme. The use of MOOCs illustrates how digital technologies can serve as effective tools for differentiation, allowing universities to tailor learning experiences to diverse student needs and contexts (Kostolányová, Šarmanová and Takács, 2011). Drawing upon this fully functioning mechanism supporting only exchange programme students, I assume the expansion of this mechanism for a larger audience could be beneficial for all students in accelerating their learning, potentially offering flexible, self-paced, and interest-based learning pathways. Such innovations can accommodate static and dynamic learning paces, preferred learning modes, and disciplinary interests (Kostolányová, Šarmanová and Takács, 2011), thus it could offer opportunities for gifted students to access appropriate material. Although in the context of Kazakhstan, in-person learning remained culturally and institutionally dominant, the COVID-19 pandemic forced transition to online education, as in all over the world (Burmistrova and Makoelle, 2023). The strategic integration of high-quality MOOCs and other online learning tools could enhance differentiation by expanding access, promoting autonomy, and supporting

personalised academic development. However, implementation of MOOCSs will require an adequate level of digital literacy to access and navigate online courses which could be referred as a potential barrier for some students and staff. Nevertheless, even though these measures reflect institutional efforts to promote flexibility and inclusivity, they do not directly address the pedagogical requirements of gifted learners. Consequently, the university could consider leveraging existing resources, such as Massive Open Online Courses (MOOCs) to better support AGS and meet their specific educational needs.

Acceleration opportunities

Acceleration allows students to advance through school more quickly or take advanced courses earlier than usual (Steenbergen-Hu et al., 2016). Common forms include grade skipping and early admission, as well as subject-specific acceleration, dual enrolment, and early graduation (Steenbergen-Hu et al., 2016). In acknowledgement of the advanced learning that graduates of Nazarbayev Intellectual Schools (NIS) schools might have engaged in, the university provides them with the opportunity to accelerate their studies by completing a degree programme within three years, as opposed to the standard four-year curriculum. However, according to students' feedback, this option was not available across all academic programmes. Furthermore, students reported encountering structural barriers such as mandatory prerequisite courses with limited enrolment capacity, scheduling conflicts between courses, and other administrative constraints. These structural issues are relevant to all students, including AGS. However, for the NIS graduates this barrier seem to be more problematic because they studied for 12 years in school before their higher education, contrasting to all other school graduates, including BIL, who studied 11 years at school. Initially, the rationale for offering this accelerated pathway exclusively to NIS graduates was grounded in their completion of a 12-year school education programme, compared to the 11-year schooling system followed by most other students, including BIL schools (Government Bodies, 2023). Nevertheless, this justification for enabling acceleration for only NIS graduates based on their 12-year study system remains ambiguous and raises questions regarding the criteria and rationale for extending such opportunities specifically to graduates of certain gifted schools.

6.3 Equity vs Inequality in Higher Education Institution

Three student participants emphasised that the university strives to treat all students equally, regardless of their academic background. This sense of fairness was perceived positively and seen as part of the university's inclusive ethos. As one student (FG2P1) stated: *"I think there shouldn't be any special treatment for academically gifted students since we all came to study."* These views were echoed by another student (FG3P1) who commented:

> Our university tries to build a good environment and equally supports everyone, no matter whether they graduated from NIS or BIL schools or not.

Collectively, these statements reflect a strong belief in egalitarianism among the student body, suggesting that equity is experienced as an institutional value. Yet, this perception of equality raises important questions about how universities balance inclusivity with the need to recognise and support diverse academic abilities.

On Segregation and Inclusive Practices

From a pedagogical and ethical standpoint, ability-based or school-type segregation, also referred to as *tracking* (Hallinan, 1994; Steenbergen-Hu et al., 2016), is problematic. Although it is sometimes justified on the grounds of instructional efficiency or meeting high achievers' needs (Antonacci, 2000; Tieso, 2003), a substantial body of research demonstrates that such practices undermine educational equity and overall student development (Burris and Welner, 2005; Maharaj and Zareey, 2022). This concern extends to gifted programmes, which, if implemented as segregated groups or tracking, tends to reproduce and exacerbate socio-economic inequalities. Students in these groups are often drawn from more privileged backgrounds, concentrating resources and enriching learning opportunities among a narrow demographic while limiting access for capable students from less advantaged schools. Such structural separation reinforces social stratification and can restrict interactions across diverse student groups, reducing collaboration, civic competence, and the development of critical thinking skills that flourish in integrated settings (Janmaat, 2011; The Century Foundation, 2019). While striving to meet the needs of gifted students, universities must therefore remain vigilant to the risk of unintentionally marginalising those from less privileged backgrounds who may not have had prior opportunities to demonstrate their academic potential. Addressing one form of inequity, by

clustering high-achieving students, can unintentionally introduce another: the implicit assumption that students outside these groups lack exceptional ability. This perception may limit their access to enrichment opportunities, teacher recognition, and academic self-confidence. One student (FG2P3) response explicitly highlighted that there are students coming from comprehensive schools who deserve to be recognised as gifted.

> I think it's not good to differentiate academically gifted students from other students, because we are all equal and have equal opportunities. Even in my higher education, I've met students from regular schools who are more academically developed than NIS or BIL graduates.

This response questions the idea that AGS should mainly be associated with gifted schools such as NIS or BIL. By pointing out that students from comprehensive schools can be equally or even more academically capable, the participant highlighted the limitations of identifying giftedness solely based on school reputation, omitting the individual ability. In terms of inclusive practices, this view suggests that current systems of recognising gifted students may unintentionally exclude capable learners from less advantaged educational backgrounds. Inclusive practice, therefore, requires a broader and fairer approach to identifying giftedness, one that considers multiple indicators such as academic performance, motivation, creativity, and personal development. At the same time, the participant's concern about differentiation reflects a desire for equality. However, inclusive education does not mean treating all students identically; instead, it involves providing appropriate support based on individual needs while avoiding labels that create division. This perspective encourages educational institutions to promote recognition systems that are fair, flexible, and supportive, ensuring that all students have the opportunity to be acknowledged and nurtured according to their abilities. The findings also indicate that the university's digital portal possesses the technical capability to group students based on performance or prior schooling, potentially assisting in managing diverse learning levels. However, one executive board member participant reported that this functionality remains underutilised due to limited communication between administrative and teaching staff. The broader system appears characterised by inconsistency and ambiguity: definitions of giftedness vary, and institutional support is uneven. Consequently, access to enrichment often depends on chance encounters with proactive educators instead of structured institutional policies. This points to a systemic need for coherent frameworks for identifying and nurturing AGS to ensure they receive evenly distributed support from the university and supporting them to realise their potential.

Socioeconomic Privilege in Identification of Giftedness

The analysis further reveals that the concept of "giftedness" at the university level remains ambiguous and inconsistently applied. As the executive board members equate giftedness with measurable academic performance indicators such as GPA or standardised test results, teachers rely on subjective perceptions of students' analytical, creative, or critical thinking skills. A third perspective associates giftedness with students' prior schooling in elite institutions, such as NIS or BIL, where extensive academic preparation and access to resources and opportunities (e.g. *solving a high volume of mathematics problems*), not available to students from less privileged backgrounds, are assumed to foster higher performance. This latter perception aligns closely with Gagné's (2013) Differentiated Model of Giftedness and Talent (DMGT) (See section 4.2), which distinguishes between *giftedness* as natural abilities, and *talent* as the product of cultivated skills and accomplishments. As discussed earlier in section 3.3 of Chapter Three, according to Gagné's (2013) DMGT Model, *talent* is defined as the developed skills or accomplishments that arise from an individual's innate potential. This distinction is crucial for comprehending the complex process of talent development, as it highlights that high potential alone does not ensure achievement. Instead, it highlights the significance of various developmental catalysts, both internal and external, in cultivating a gift into a realised talent. Similarly, students who had attended gifted schools prior to attending tertiary education, have gone through a thorough preparation and training as described by the academic teaching staff participants. The findings may suggest that two teachers conflate these concepts, perceiving students from elite schools as inherently gifted, when in fact their achievements may largely reflect prior enrichment and socio-economic privilege. Consequently, definitions of giftedness grounded in prior advantage may systematically exclude underserved students, perpetuating inequality in access to recognition, support, and academic development.

6.4 Support for University Teaching Staff

In this section I will draw upon the university support for teaching staff, in providing teacher professional development (TPD), and its importance in supporting teaching and learning of students with various needs. An important point was raised by one teacher (ATSP1) in relation to academics with PhD degrees but who lacked professional development in pedagogy to teach in their areas of expertise. This is also relevant to university gifted students, who require additional skills and preparation from the teachers. Literature on teaching gifted students (see for example, Rogers, 2007; Vreys et al., 2018; Al-Khayat et al., 2017), suggests that teacher professional development (TPD) programmes for gifted education is necessary for those who work with gifted students, as these programmes could enhance AGS' critical thinking, motivation, and increase their self-confidence and independence. The teacher (ATSP1) urged the university to offer support in terms of professional development for teaching staff about pedagogical principles both in general and specifically for AGS students. As such TPD programmes help teachers to "demonstrate greater teaching skills and develop more positive class climates, putting more emphasis on higher level thinking skills and discussions, rather than on lecture and grades" (Hansen and Feldhusen, 1994, p.115). It is important for teachers to be exposed to practical strategies that can support this group of learners because, according to Choi et al. (2017), instructors who lack personal experience with active learning methods that are deemed to support gifted learners, may encounter difficulties when implementing such strategies in their classrooms. According to Ashton (2017), teachers need more professional development, mentoring, and practical support to better understand differentiation, flexible grouping, and strategies for teaching multilevel classes, especially to support early career teachers. While teachers can have subject knowledge, their lack of pedagogical background and experience working with AGS students, further complicates the issue. Teacher (ATSP1), states the following:

> A person has completed his PhD in Computer Science… but he doesn't have a pedagogy background. The skills inventory, teaching skills portfolio of the universities are not capable to deal with academically gifted students.

Without pedagogical training support, teachers appear to be, at best, navigating differentiation largely through intuition or experience, whereas it should be through evidence-based practice (e.g. ability grouping, flipped classroom). Smale-Jacobse et al. (2019) highlighted that ability grouping and tiering, heterogeneous grouping, individualisation, teacher training for differentiated instructions are the most commonly

used practices of differentiated instructions in secondary education. The current situation turns personal initiative into both a strength and a risk: while it enables responsive teaching, it also fosters a model of gifted education that is unsystematic and uneven. To address this apparent unsystematic and uneven implementation of strategies it could be argued that clear policy documents and guidance would be beneficial (VanTassel-Baska, 2009; Pozas et al., 2020). However, further analysis of the documents related to learning, teaching and professional development indicated that they too were fragmented and did not explicitly address gifted learners. For example, the analysis of the university policy document on *Regulation on training and professional development of the employees at the university* (2021a), stated that training programmes were organised and delivered on a regular basis. However, this document, regulated by HR, is relevant to all employees and across all subjects and departments. The document emphasised trainings on various administrative positions within the institution, without clear indication of training on academic and research activities. Therefore, it seemed unclear whether this document covered the teacher professional development programmes or only focused on training of administrative employees. However, in further investigation, I found evidence on university's teacher professional development programme. This university policy document (2025a) stated that the pedagogical training and re-training programmes were designed for professionals without pedagogical practice and to the schoolteacher qualification advancement training courses. All this training was organised by a dedicated unit – Extension School. The university policy document (2025a) on the Extension School Unit is only available in Kazakh language. In this document it stated the following among their general objectives:

> Университеттің профессор-оқытушылық құрамының, қызметкерлерінің және орта білім беру ұйымдарының әкімшілігі мен педагогтеріне арналған кәсіби академиялық және әдістемелік құзыреттілігін дамыту бойынша іс-шаралар ұйымдастыру

Translation of the above excerpt by the author of this thesis is as follows:

> [Extension school is responsible for] Organisation of activities to develop professional academic and methodological competence for the university teaching staff, employees of the university, and the administration and teachers of secondary education organisations

This contradiction in teacher response and university policy documents questions in what ways the systematic implementation of policy is in place at the university and the extent to which the needs of teachers are considered.

6.5 Health and Wellbeing Issues and Support for AGS

This section focuses on the health and wellbeing issues regarding AGS at the university. Having reviewed the university policy documents, it was evident that the university claims to provide psychological support, as well as promote healthy lifestyle among their students'. The university policy document (2024b) stated that:

> In order to enhance the physical, emotional and social well-being (state) and literacy of students, the University offers psychological support programs and activities that promote healthy lifestyles, resources and services aimed at counselling and building mutually beneficial relationships.

The availability of and accessibility to psychological support services was supported by the student participants. One student (FG2P2) stated:

> I used the service of psychologists in our university. Because there was a time when I really needed it. And exactly these psychologists helped me to reconsider my attitude towards my studies and life.

One teacher (ATSP5) highlights on what really matters is that students feel safe and comfortable in class. They believe that classrooms should be places where students feel free to speak, even if they disagree with the teacher.

> The student feels safe and comfortable and heard... that the classroom is a safe place... where a student can say something opposing the teacher's perspective.

This challenges the traditional idea that teachers are always right and should not be questioned, especially in cultures as in Kazakhstan, where authority is rarely challenged. They (ATSP5) insist that a "good university" is one that actively creates an environment where students not only learn but feel psychologically secure and socially included. In the following sections I discuss about pressures that AGS experience in their academic life. Following that I focus on the wellbeing support services offered via academic advisors.

6.5.1 Academic Pressure and Societal Expectations

The focus group data reveal that AGS students face intense academic and social pressures that significantly impact their wellbeing. These pressures arise from three primary sources: academic standards, financial dependency on scholarships, and societal expectations of leadership.

Academic Pressure and Perfectionism

Student participants described striving for high academic standards, linking their self-worth to academic performance. Two student participants mentioned the term "high achiever syndrome" (*transl. – синдром отличника*), referring to a tendency for one's emotions and self-esteem to fluctuate according to grades. As one student (FG2P1) explained:

> Some of the students have a high-achiever's syndrome when their academic performance effects on how they feel. They may feel happy when they get high marks, or they may feel anxious and miserable when they get lower marks.

Another student (FG2P2) explained:

> I am the only student who has a high-achiever's syndrome here (in focus group), who tries to manage her studies in a perfect way. Lately, I've been thinking about that it was more important for me to feel good and confident about my grades rather than thinking about why I am failing the certain course. Now I will explain how it works. I always try my best to keep my scores high. I never study for grades, but only study for myself to get some knowledge and skills.

Students reported that their self-worth was closely tied to academic performance, experiencing pride when achieving high marks and deep distress when falling short.

Student (FG2P2) added: "*For me, this syndrome feels like an illness, so it is important to get rid of it."* Despite its prevalence in student discussions, and my extensive review of existing literature on the term *'high-achiever syndrome'*, no references were identified within academic or scholarly sources (e.g. EBSCOhost). As noted in an article published by *Forbes magazine*, "Neither the term itself, nor the historical concept, can be found in academic or research literature" (Balmond, 2023, para. 3). Some organisations that support well-being and mental health issues also recognise high-achievers syndrome. For instance, A UK based organisation called Psychologically Making A Change (PMAC), defines high achiever syndrome as "a psychological condition where individuals, often fuelled by perfectionism and a strong desire for success**,** set incredibly high expectations for themselves. The pursuit of excellence could simultaneously drive the amazing accomplishments and a solid work ethic while also risking stress, anxiety, and burnout." (Broughton-McKinna, 2024). Nevertheless, the authors draw parallels between the concept in question and the psychological construct of perfectionism. While there are similarities, a key distinction lies in the motivational focus: perfectionists are primarily driven by an

internalised need for continuous self-improvement, whereas individuals exhibiting characteristics of 'high-achiever syndrome' tend to evaluate their self-worth through the perceived judgments of others, experiencing validation when achieving top performance and disappointment when outcomes, although objectively good, fall short of perceived excellence (Balmond, 2023). Furthermore, the language peculiarities and its translation create an additional challenge in conveying the intended meaning. Conceptually, it closely aligns with the construct of *perfectionism*, particularly *socially prescribed perfectionism* (Speirs Neumeister, 2004), where individuals base their self-worth on meeting others' expectations. Therefore, I used the term "perfectionist" in this case. Perfectionism is a commonly associated characteristic for gifted people (Speirs Neumeister, 2004). Students relate their self-worth and identity closely with academic success, which suggest deeply rooted pressures, causing concerns on students' mental health.

FG2P2 explicitly admits having a perfectionist characteristic, stating that they have the highest GPA in the university:

> It put more pressure on me from the teachers' and students' side than my own pressure...it really affected my wellbeing negatively.

FG4P3 describes a psychological compulsion to constantly study: *"When I do not study, I feel like I'm stupid."* FG4P1 expressed similar concerns about the constant pressure to study hard at the university: *"My environment does not give me time to rest. We always must study and gain knowledge, continually studying and improving."* These accounts illustrate that academic achievement often becomes a measure of personal identity, leading to stress, anxiety, and exhaustion. Literature on perfectionism in gifted students confirms that such traits may "block achievement, cause anxiety and lead to thoughts of suicide" under constant self-imposed pressure (Speirs Neumeister, 2004, p.259). Although most participants saw academic rigour as beneficial, some explicitly highlighted its negative mental health effects. FG3P2 recalled: *"I remember days when I slept only for two hours. So, for my mental health, it was difficult."* This statement highlights a conflict, while academic challenge can help students grow, an academic culture that demands too much can result in some students having health and wellbeing concerns. Students' identity and self-esteem appear deeply intertwined with academic achievement, causing psychological stress and vulnerability. Speirs Neumeister (2004) in their study indicated that such tendencies exist in socially prescribed perfectionists, which is essentially maintaining high standards to please others. Although the research (Speirs Neumeister, 2004) is conducted within the context of higher education, it highlights that the origins of perfectionistic

tendencies frequently emerge during earlier educational experiences and within the family environment. Building on this, the challenges arising from perfectionism can be directly linked to the rationale for implementing educational interventions that support gifted learners earlier in their learning journey. Early identification and support can help students cultivate healthier coping mechanisms, setting realistic goals, and a balanced self-concept that is not solely dependent on academic performance. Continuity of such interventions into higher education can further assist learners in managing academic pressures and sustaining well-being among high expectations.

Financial Pressure

Another prominent source of stress among participants was the financial implications of academic performance (Ogbuagu et al., 2024). Several students expressed anxiety about maintaining scholarships, as their financial stability depended on achieving consistently high grades (Usman and Banu, 2019). Thinking of losing financial support and burdening their families created additional stress. Student participant (FG4P1) explained:

> You lose your scholarship, which makes you and your parents frustrated by putting some pressure on you thinking 'why didn't I study harder?'.

Another student participant (FG3P1) stated: *"If I fail exams, it will affect my financial wellbeing."* Although such scholarship systems are designed to motivate students and to promote academic excellence, they seem to have setbacks, in terms of functioning as punitive mechanisms, reinforcing fear of failure and heightening anxiety. As state grants and scholarships are regulated by the Ministry of Science and Higher Education of Kazakhstan, which refers to nationwide educational policies and standards, this issue can be related to **macrosystem** (see p.64) proposed in Bronfenbrenner's (1979) Ecological Systems theory (see section 3.3 What is Talent?). In Kazakhstan, students are required to maintain a minimum grade of +C (70%) in all courses each semester to retain their scholarship. While this threshold may appear attainable, it becomes a significant source of pressure when combined with the overall workload and varying interest across subjects. This links the financial stability to flawless academic performance. The potential loss of financial support also amplifies feelings of responsibility toward parents, who may have invested considerable expectations in their child's success. Consequently, these factors combine together create a pressure on AGS, negatively affecting on their wellbeing and potential threat to their academic performance.

Financial pressure was also evident among students without scholarships, who face the additional burden of tuition payments and the need for part-time employment to sustain their studies (Harding, 2011). One student participant (FG2P1) explained:

> Some of the students don't have scholarships and must pay their tuition fees, but they don't want to ask for money from their parents. That's why they work and sometimes they may forget that they work to study, but not to work.

This quote reveals a different yet equally demanding form of financial pressure. The student's reflection highlights the tension between academic commitment and financial independence, as working to afford education can compromise study time, rest, and academic focus (Kumar, 2024). The reluctance to seek parental financial assistance further illustrates an internalised sense of responsibility and self-reliance, which may stem from cultural expectations of independence and familial pride. Furthermore, students from lower socio-economic backgrounds are significantly more vulnerable to financial hardship during their studies and are therefore more likely to engage in term-time employment (Harding, 2011; Kumar, 2024). Although on-campus part-time employment facilitates retention (Astin, 1999), according to Callender (2008), term-time employment negatively impacts students' final-year grades and overall degree results, with longer working hours intensifying this effect. Taken together, financial pressures may blur students' priorities, shifting their motivation from academic achievement to survival within the system. Consequently, whether students are striving to maintain scholarships or to self-fund their studies, financial concerns serve as a persistent source of psychological burden. Both groups experience a strong connection between financial security and academic success, reinforcing a performance-driven mindset that can undermine wellbeing.

Societal and Cultural Expectations

Finally, participants mentioned external pressure from teachers, parents, peers, and society. As discussed earlier in Chapter Two, the gifted schools namely NIS, have a mission in cultivating the future leaders of the country within their educational establishments. While this mission is culturally valued, it generates an implicit burden of responsibility. Although participants understand the value of leadership, the repeated narrative of overwhelming pressure reveals deep emotional tensions associated with leadership expectations. Having attended elite schools such as Nazarbayev Intellectual Schools (NIS), participants reported that they were frequently positioned as "future leaders of Kazakhstan."

Student (FG4P3) recalled:

> My teachers always said, 'You are the future of Kazakhstan'… I felt a lot of pressure… I thought, 'Hello! I am only 16, what do you want from me?'

Similarly, FG4P4 described being told: *"You are taking someone's place, so you need to be good…to represent your school well."* Both cases took place in the context of school education. These comments reveal how leadership expectations can foster anxiety. Moreover, one student (FG1P2) indicated that this pressure persists in higher education, where professors hold NIS graduates to higher standards: *"Teachers find out you're from NIS… they become more demanding and stricter to you."* These student quotes seem to highlight the consistent experiences of AGS students, both in school and in higher education, indicating persistent societal expectations and pressures to which neither the students nor their parents have explicitly consented. Understanding these dynamics requires situating them within Kazakhstan's socio-historical context. During the Soviet era, education was viewed as a pathway to social mobility and moral fulfilment (Kosyakova, 2016; Roberts, 2006). Parents who grew up under these values often perceive enrolment in prestigious institutions as a means of securing success for their children. Considering this historical context, it can be inferred that parents in Kazakhstan often perceive enrolment in a prestigious institution, offering a high-quality education, as a strategic pathway toward enhanced career prospects and a strong foundation for future success. These generational values persist, influencing parents' and society's expectations that NIS students will become the country's leaders. However, my findings suggest that these leadership expectations placed on AGS students often generate stress and anxiety, potentially undermining genuine leadership development, negatively impacting their wellbeing and hindering authentic leadership development, as was initially projected by NIS schools' establishment. As FG3P2 reflected:

> When you get good grades, people think you'll always get good grades... under this pressure, it's hard sometimes not to be stressed.

The same student (FG3P2) further emphasised external expectations as a significant source of stress:

> Expectations from some people, like my parents and a bit from my teachers… when I fail even a bit, it really affects me. I take it personally.

Academic, financial, and societal pressures all combined to create an environment where AGS students struggle to balance achievement with wellbeing. While the cultivation of leadership is valued in Kazakhstan's educational mission, these findings suggest that excessive external expectations may paradoxically undermine students' authentic leadership development by replacing intrinsic motivation with anxiety and fear of underperformance.

6.5.2 University Wellbeing Support through Academic Advisors

Academic advising is widely recognized as a key factor in enhancing student retention and overall student satisfaction (Mathew and Ibrahim, 2023). Understanding the role of academic advisors was essential to addressing the research questions concerning how AGS are supported within the university context. Academic advisors often act as the first point of contact for students seeking guidance. This responsibility was consistently highlighted by both student and university staff participants, as well as confirmed in university policy (University Policy Document, 2021b).

According to the *Guidelines of the Advisory Service* (University Policy Document, 2021b), advisors are expected to provide both academic and social support, including listening to students' personal concerns, organising regular meetings, assisting with registration, and communicating students' needs to relevant departments. These responsibilities position advisors as intermediaries between students and the institution, reflecting the university's recognition of their holistic role (Mathew and Ibrahim, 2023). Therefore, examining their role provided valuable insight into the kinds of academic, emotional, and institutional support available to AGS, and how such support contributes to their overall experience in higher education.

Institutional Context and Compensation

From a contextual perspective, Kazakhstani higher education institutions employ the practice known as "kurator" (translated as "advisor"). An advisory role is typically assigned to academic staff either as a remunerated duty or a community service. The *Regulations on Remuneration of Employees* (2025b) specify that teaching staff undertaking advisory responsibilities receive additional payment of 500 KZT per student per month. The Table 9 below was adopted from the university policy document (2025b, Annex 1). The table had a list of positions and staff descriptions who receive additional payment for

their work. The advisor position involved in this study was 9th in row, so I only included that particular row, disregarding the rest of the list. This remuneration is calculated as a fixed rate multiplied by the number of students assigned to the academic advisor.

No.	Staff	Type (reason) of bonus to official salary	Size of bonus	Frequency	Comments
9	Teaching staff	Advisor	500 KZT per student	monthly	List of students includes bachelor students, master students and PhD doctoral students

Table 9 Excerpt from Bonuses to official salaries document

While this remuneration provides a practical incentive for teaching staff who as well take the responsibility of academic advising, it raises questions about whether emotional and wellbeing support should depend on financial motivation. Four out of five teachers indicated a willingness to provide such support irrespective of payment, viewing it as a moral obligation and a "social norm". Similarly, to motivate advisors, Mathew and Ibrahim (2023) suggest the roles and responsibilities of advisors should be clearly articulated, with advising formally recognised through promotion and salary incentives, as well as through awards, certificates of merit, and opportunities to attend national and international conferences that support professional development and advisor growth. A study on attitude differences between paid workers and volunteers in a formal context (hospital) by Liao-Troth (2001) suggested both paid worker and volunteer groups show similarities in terms of affective commitment, psychological contract and organisational justice perspectives, with only significant differences in areas directly tied to the financial relationship with the employer. Paid employers are more bound to their work and continuance commitment due to higher cost of leaving compared to volunteers. On the one hand, from teacher participants' responses it seems promising that teachers are willing to take on additional roles. On the other hand, there is a risk that some teachers may not be willing to do the same without additional incentives. These differences in motivation could lead to inconsistencies in student experiences and equity of support. As two teachers indicated,

they would offer their help for students because they assume it as their responsibility as a teacher, even though it may not be explicitly written in their job description. However, it is difficult to say whether such additional payment influences the effectiveness of teachers in advisory role.

Academic Advisors' Roles in Practice

Empirical evidence from teachers, students, executive board members policy documents suggests that advisors fulfil a complex role encompassing academic, emotional, and institutional support, that resonates strongly with students' specific contexts. Advisors are often described as approachable figures who foster trust and provide formal and informal assistance by participants (Panagiota Stamou, Konstantina Tsoli and Babalis, 2024). One student explained that *"sometimes we can even have some tea together,"* illustrating how informal interactions contribute to students' sense of belonging (FG3P1). As some advisors were currently and formerly pursuing their master's degree, students found it easier to relate to them and to receive relevant academic advice. According to Samuel et al., (2024, p.191) "effective advising for high-achieving learners is defined by trust, accessibility, empathy, and a deep understanding of learners' professional and personal contexts." Two student (FG1P2, FG3P1) described advisors as sources of encouragement. One student (FG3P1) shared:

> I always talk to my advisors. Sometimes they share the things related to the lessons, and sometimes they just give me some piece of advice like "don't stress out too much.

Additionally, one student (FG1P2) noted that advisors can act as mediators between students and lecturers, sometimes negotiating additional opportunities for struggling students.

> Advisors could give some information and a piece of advice to solve your problems… some of my group mates had a risk of failing the course or retaking the course, and so on. And our advisor helped them by speaking and convincing the teachers to give those students a second try.

This could suggest that a relationship of academic advisors with students potentially provides an environment or a context where students could feel comfortable approaching their advisors with various issues, including those of a personal or psychological nature (Panagiota Stamou, Konstantina Tsoli and Babalis, 2024). It is worth highlighting that this service and support is available for all students and not limited to AGS only.

One teacher's (ATSP2) practice of asking students *"how are you feeling today, guys?"* and inviting them to office hours to discuss *"everything that worries you"* goes beyond academic concerns, demonstrating a genuine commitment to student wellbeing. This is particularly evident in the examples provided by ATSP2, where they supported a student who *"lost his sight"* and another who *"lost his dad"* showcasing the profound personal support advisors can offer. They (ATSP2) described assisting students experiencing bereavement or disability, stating:

> I have a student who unfortunately lost his sight, unfortunately, now he does not see almost at all like probably 5% he can see, but no more than that. So, I have to deal with such issues as well as an advisor, and I try to support this student. Then my other student lost his dad in December, and I tried to provide some help and support to her, because I noticed that she wrote on Instagram that she was so sad that she could even do something with herself after this situation happened.

Such cases highlight the depth of emotional engagement that advisory work can require, particularly when addressing crises affecting students', including AGS academic performance. Advisors serve as the first point of assistance for students in any situation. Based on my personal experience as a former advisor, advisors communicate with all students through mutually agreed channels (e.g. email, WhatsApp group chat, etc.), serving as a direct liaison between the university and students. In other cases, advisors may offer individual advice, when approached by students. Based on university policy document (2021b), advisors are expected to meet with their allocated group regularly, explaining the university's internal rules and regulations. This was also supported by the data, highlighting that advisors are envisioned as the *"first point of contact"* for students, a role that necessitates a broad scope of engagement. As stated by one executive board member (EBMP3):

> The advisors work closely with the students. They are the ones who know their students well enough. They are the ones who meet with them in the first place, listen to their problems.

The quote explicitly emphasises the advisors listening to student's problems, which was also confirmed by university policy documents. Academic advisors actively strive to create supportive environments. According to the university policy document (2021b) on advisory service, the academic advising role responsibilities included the following:

> Listening to the student's social problems (ethics, behaviour, psychological characteristics, etc.), sharing with the coordinator of Social Affairs.

> Attend meetings of the adviser, inform the senior adviser or co-ordinators about the student's problems, communicate their complaints and wishes.

Executive board member (EBMP3) further recognised advisors as *"first aid people"* who identify problems and refer students to relevant units, such as psychological or financial support services. This *"signposting"* role is crucial, especially when advisors are not trained specialists. EBMP3:

> If an issue is out of their scope, they can signpost it to relevant office or department... like the Psychological Support department. If there are financial problems, they can signpost them to the accountants.

Executive board member (EBMP3) reinforced the idea of a supportive environment through advisors by stating: *"They (students) have the advisors who can support them. They have meetings with them for academic issues."* This may suggest that even academic meetings can serve as a way for holistic support, allowing advisors to build strong mutual relationships and identify other areas where students might need assistance.

Furthermore, another executive member (EBMP2) explained, the university organises seminars to equip advisors with basic guidance skills for supporting students in distress.

> The university organises sessions, some seminars, and advise the psychologists to at least explain what to do in certain situations, so that they can help our students in this manner.

This demonstrates that while advisors may not be qualified professionals in all areas, their role involves identifying the need for further support and directing students to appropriate resources. As a first point of contact for students, including academically gifted ones, who might require assistance with mental health issues or financial concerns, the role of academic advisors seem to be crucial in providing first hand support for students and may be indirectly impacting students' academic performance. As noted by McGill, Heikkila and Lazarowicz, (2020), academic advising services require ongoing professional development and training, and offering such training with a focus on the specific characteristics of AGS could be beneficial for all stakeholders.

Challenges and Implications for AGS

Despite their importance, advisors face practical challenges. Participants reported that large advisory groups, sometimes exceeding 60 students, make it difficult to provide individualised attention. As one teacher (ATSP2) acknowledged: "*My advisory group is large. I have almost 60 students. So, I know about 30 or 40 students so well, other 20, I don't know but I try my best to try to know more about them."*

This may suggest that the ideal of knowing students *"well enough"* can be challenging to achieve in practice, further suggesting that while the advisor role is intended to be personalised, such workload pressures limit the potential for proactive support and may leave quieter or high-achieving students, including AGS, unnoticed when they encounter difficulties.

The evidence from my study indicates that advisors contribute significantly to students' holistic development and wellbeing within higher education institution. Gifted students require the development of resilience to navigate potential setbacks (Ozturk and Debelak, 2008). However, the overreliance on only advisors, risks overlooking the broader responsibility of all teaching staff in fostering resilience and wellbeing among AGS. For instance, only one teacher participant (ATSP2) among five indicated they were academic advisors. Crawford and Johns (2018) view that academic staff can provide both academic and non-academic support through sustained contact. As Ozturk and Debelak (2008, p.52) noted, resilience can be cultivated through the "guidance and supervision of a caring adult, such as teachers, coaches and parents." This support encompasses acting as a primary point of contact, addressing personal and psychological concerns, and fostering a supportive environment. This role is relevant for all students, including AGS, who may face a range of challenges beyond their studies.

Findings above seem to suggest that advisors play a unique role in bridging academic, emotional, and institutional gaps, offering AGS both practical assistance (e.g., negotiating with faculty) and psychosocial support (e.g., directing to relevant department). Crawford and Johns (2018) suggest that academic staff can play a role in providing a holistic, student and course centred support for students, as they often have regular contact with students and can provide academic and non-academic support. The dual role of teachers as both academic instructors and academic advisors further illustrates the breadth of responsibilities placed upon academic staff.

6.6 Interplay of Pedagogical Approaches, Leadership Development and Health and Wellbeing

In this section I discuss the close interaction between three areas which has common interdependence in supporting AGS within the university. The findings reveal direct connections between the three seemingly independent areas.

a. Teachers' Willingness to Provide Health and Wellbeing Support

Despite the lack of clarity, most teachers reported providing wellbeing and emotional support as part of what they considered a "social norm." Four of the five teacher participants described themselves as willing to provide such help informally, even without recognition or incentives. Research (see for example, Hughes and Spanner, 2019; Houghton and Anderson, 2017; Jones et al., 2020) suggest that nurturing pedagogical practices and assessment can significantly contribute to the overall wellbeing of university students. While this willingness is encouraging, it also highlights the risk of inconsistency: some staff may choose not to engage in such roles, potentially leading to unequal student experiences. As ATSP5 summarised, teachers' contributions to students' *"academic and social happiness"* are irreplaceable, even though not systematically supported.

b. Teaching and Health and Wellbeing

Teachers demonstrated commitment through extended preparation and delivery. ATSP3, for example, prepared lessons beyond the required duration, intentionally creating a more demanding environment:

> While preparing for my classes, I always prefer to bring something extra, and I always plan my class, not for 50 min, but for 70. Of course we don't always finish on time. But I see that when it is challenging, students… sweat during the lesson.

This quote captures both the emotional investment and the intensity of preparation that differentiation requires, yet there is no evidence of institutional recognition, incentives, or training to support such efforts. Furthermore, it could also raise concerns about student health and wellbeing with overly long classes without breaks.

c. Academic Rigour and Health and Wellbeing Implications

The focus group discussions and staff interviews revealed that AGS generally perceive challenging academic environments as central to their personal and academic development, though their experiences also highlighted the risks of disengagement and pressure. Although academic rigour was perceived as a positively in keeping students motivated and developing growth mindset, the potential risks of academic rigour were not overlooked. Two participants highlighted the negative impact of excessive pressure on their health and wellbeing. One student (FG3P2) recalled a period in which they slept only two hours per night due to academic workload, acknowledging the strain on their mental health. Such accounts highlight the tension between growth through meeting challenges and the dangers of environments that demand unsustainable levels of effort.

d. Motivation and Burnout

Self-Determination Theory (SDT) distinguishes between intrinsically motivated behaviours, driven by interest and enjoyment, and extrinsically motivated behaviours, driven by external demands or rewards (Ryan and Deci, 2000). Whether these AGS have internal (intrinsic) motivation to succeed, or whether their motivation is primarily externally regulated by parental expectations requires further explorations. Research suggests that gifted students who rely on extrinsic regulation, such as parental pressure or rewards, may experience a decline in persistence when those external factors are removed. As noted by Garn, Matthews, and Jolly (2010), reliance on controlled motivation can hinder the development of autonomous self-regulation, leaving students vulnerable when they no longer have immediate proximity to the parental drive that previously sustained their academic performance. In Kazakhstan context it is common for high school students to apply for university programmes that do not require high UNT score results in order to seek a state grant. Even though some students may have natural propensity towards certain subjects, programme choice is often shaped by external considerations, including financial constraints, parental approval, and limited access to career or university counselling at school level. Previous studies have shown that such misalignment between students' interests and their chosen fields of study is associated with lower academic engagement and increased risk of motivational decline (Eccles and Wigfield, 2002).

Furthermore, in pursuit of meeting the parents' expectations, students can face additional pressure on academic performance, linking to socially prescribed perfectionism (Speirs

Neumeister, 2004). One student (FG2P1) described their choice of the programme as meeting the parents' expectations:

> I used to study in Information Systems since my core subjects at school were physics and mathematics…. I had to go there because my parents were expecting that I will also go to university since I studied at NIS school

While the same participant (FG2P1) reported high motivation for mathematics during school years, largely fostered by a competitive academic environment, they later experienced difficulties studying Information Systems, a programme for which they expressed little intrinsic interest. The participant's (FG2P1) account of discomfort in academic disinterest leading to burnout also resonates with studies by Salmela-Aro et al. (2009), linking school burnout and emotional exhaustion, especially when students experience low autonomy and limited sense of meaning in their studies:

> When I went to IT sphere, I also had challenging academic environment which wasn't enjoyable but demanding, as you have to study every day and understand what programming or coding is. But I didn't want it. … When a person doesn't feel comfortable with the process of (academic) working, it will lead to burnout, I guess.

Chong et al. (2025) suggest that burnout risk can be reduced through a collaborative approach in which schools, families, and policymakers work together to foster supportive educational environments, strengthen social and family support, promote adaptive coping strategies, and encourage healthy lifestyles.

e. Extracurricular and Health and Wellbeing

Extracurricular activities were also linked to mental health and emotional wellbeing, with participants emphasising their role as outlets for stress relief, maintaining mental health and achieving study-life balance. FG4P3 indicates the emotional benefit explicitly:

> We study constantly, and it's important to have free time for yourself... extracurricular activities make you step out of your usual lifestyle.

For AGS, who frequently face intense academic pressures, involvement in extracurricular activities provides an essential emotional release from these demands. Such activities function as protective environmental catalysts that help maintain motivation and engagement, thereby preventing stress and burnout from diminishing their potential. Participation in extracurricular activities has been shown to be associated with a range of

positive long-term outcomes, such as higher levels of educational and career attainment, greater political and civic involvement in adulthood, and better mental and physical health in later life (McFarland and Thomas, 2006).

f. Leadership and Health and Wellbeing

Although not explicitly being addressed as the future leaders of the country, students regarded this as "untold rule". One student (FG4P1) expressed their views on leadership linking it to studying hard and competing for the first places, which also puts a lot of pressure on them, indicating further wellbeing concerns.

> No one said to us that we are the future leaders of Kazakhstan. But I think it is an untold rule for a lot of us. That we must be good at studying and always be in first place. So, it puts lots of pressure on us.

Taken together, it is evident that pedagogical approaches, leadership development and student health and wellbeing are tightly interconnected with one another in the holistic development of the AGS within the university context. Teachers' informal willingness to provide emotional support, the emphasis on academic rigour, leadership expectations, and students' motivation patterns collectively influence both academic growth and wellbeing outcomes. The following chapter draws together the key findings of the study, offering overall conclusions and presenting evidence-informed recommendations aimed at enhancing support structures, pedagogical practices, and policy frameworks to better sustain the academic success and health and wellbeing of AGS.

Chapter 7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

The previous chapters of this thesis have established the context, developed the theoretical and methodological foundations, and presented as well as discussed, the perspectives and lived experiences of academically gifted students (AGS) within a university environment. This chapter presents the conclusions and recommendations of the study, organised under the following headings: a) a brief overview of the research; b) summary of the main findings; c) theoretical contributions; d) contributions to knowledge; e) limitations of the study; f) recommendations; and g) my personal reflection on my PhD journey.

Before presenting the concluding insights, it is important to restate that this study was centred on addressing the limited understanding of how higher education institutions in Kazakhstan recognise, support, and cultivate the learning and leadership development needs of AGS. This research problem shaped the direction of the study and informed the analysis presented in the previous chapters. In summary, this research adopted a qualitative case study design that utilised semi-structured individual interviews with university teachers and executive board members, focus group discussions with student participants, and document analysis to address the primary research question:

'How does a higher education institution support academically gifted students?'

In exploring this central question, secondary questions, which are presented below, were formulated to enhance the understanding of participants' perspectives and to provide depth to the primary inquiry:

1. How does HEI support academically gifted students through pedagogical interventions?

2. How does HEI integrate leadership development among academically gifted students through their academic curriculum?

3. How do out-of-class opportunities support the leadership skills development of academically gifted students in HEI?

To address these research questions, student participants were invited to share their experiences regarding pedagogical support, followed by questions on how the university contributes to the development of their leadership skills. Similar questions with slight amendments were posed to academic staff and executive board members in order to obtain a comprehensive and balanced understanding of the institutional support provided to AGS. The main differences of the interview questions were in how they were presented (see section 4.6.2 Interview Questions). For instance, students in focus group were asked the following question: “Do you agree that it is important for the academic curriculum to foster leadership skills?”, whereas teachers were asked “Do you think your courses have helped students to develop leadership skills?” and similarly executive board members were asked: “Do you think promoting the development of leadership skills of students in all academic courses is relevant?” The insights gained from participants’ responses facilitated the identification of key themes and subthemes that reflected the most important aspects of AGS’ experiences and the nature of the support they receive. To the best of my knowledge, this research represents one of the few in-depth studies exploring the experiences of AGS within a higher education context in Kazakhstan. Consequently, it contributes new and original insights to the existing body of knowledge concerning this specific student group at university. The summary of findings of the research is presented in the following sections, subsequent to a concise overview of the thesis chapters.

7.2 Summary of the Main Findings and Their Implications

The preceding chapters collectively built the foundation for the conclusions and recommendations presented in this chapter. Chapter One established the research problem and positioned the study within the broader context of gifted education, thereby framing the need for investigating AGS in higher education. Chapter Two deepened this foundation by analysing the national and institutional contexts, which clarified the structural and policy factors influencing support for AGS. The literature review in Chapter Three provided the theoretical and conceptual perspectives that informed both the design of the study and the interpretation of findings. Chapter Four outlined the methodological approach, demonstrating how the chosen qualitative case study design enabled a nuanced exploration of participants' experiences. Chapters Five and Six presented, analysed and discussed the empirical data, generating the insights that directly underpin the conclusions drawn in this chapter. Together, these chapters cumulatively shaped the understanding on which the final recommendations are based.

The findings suggest that there is no clear targeted approach to supporting AGS. The university does not yet appear to have a clear policy or document stating who are or should be considered gifted, whether giftedness is based on previous school (NIS, BIL, others), official test results (UNT, IELTS), or through comprehensive assessment based on teacher observations. Furthermore, the perceptions and recognition of giftedness vary among university stakeholders, indicating the absence of a shared understanding or definition within the institution. According to research participant responses, giftedness is also defined in unclear and conflicting ways, where some participants (executive board members) refer to students with high UNT scores as gifted, and the others (teachers) identify gifted students in the class through their observations. This results in an uneven distribution of support for AGS, dependent on the situational factors, such as teachers' awareness on diverse student needs, professional and pedagogical preparedness in use of differentiated instruction in mixed-ability classrooms. Without a clear vision and consistent understanding of giftedness and approaches to further develop it, AGS will keep missing out on the support they need, often relying on chance to be noticed by a committed teacher. This reliance on chance reflects the role of 'chance' within Gagné's Differentiated Model of Giftedness and Talent (2013), where unplanned opportunities or casual encounters can significantly shape whether students' potential is recognised and nurtured. In the absence of structured identification mechanisms, gifted students may remain unsupported,

overlooked entirely, with their development becoming highly dependent on unpredictable, incidental factors instead of a structured, systematic provision. Without a unified vision, equitable support for gifted students is unlikely to materialise. It is reasonable to suggest that these findings may be relevant to other AGS enrolled in universities across Kazakhstan and potentially beyond.

Further findings highlight a clear shift in university teachers' professional identities, moving away from the traditional view of the teacher as the primary source of knowledge. Teacher participants framed themselves less as traditional teachers, describing their roles as increasingly centred on facilitation, mentorship, and emotional support, with a strong focus on guiding students through academic, personal, and career challenges. They emphasised the importance of fostering psychological safety and encouraging independent thinking, which contrasts with Kazakhstan's traditionally hierarchical educational culture. Teachers viewed their work as a blend of academic instruction, motivational guidance, and social support. While such roles appear to have become a "social norm" at the classroom level, it seems to remain largely unrecognised and unsupported at the institutional level. This leaves teachers taking on significant responsibilities informally and therefore unevenly across the institution. Furthermore, even though individual teachers' efforts contribute meaningfully to the engagement and growth of AGS, the lack of institutional policy, recognition, and professional development renders this work informal and unsustainable. The work that supports AGS students appears to remain unpaid, and not institutionally embedded into practice, therefore leaving it unrecognised. Teachers' intrinsic motivation is currently the driving force behind enrichment. However, without systemic support, the long-term consistency and equity of gifted education remain at risk.

Despite systemic gaps, it appears that there are certain institutional mechanisms which offer promising avenues for differentiation and inclusion. Massive Open Online Courses (MOOCs) emerge as significant opportunities for differentiation within higher education. By enabling flexible, individualised learning trajectories, these tools are already being offered to students participating in exchange programmes. As the digital infrastructure and pedagogical design improve, such as increases use of MOOCs, then technology-enhanced learning could play a transformative role in diversifying instructional approaches within the university.

Complementing technological solutions, academic advisors serve as a critical human interface and a further mechanisms offering opportunities promising for differentiation and

inclusion of AGS. It appears that the role of academic advisors within the higher education institution involved in this study has lessons that other institutions can consider, learn from or reflect on. Considering the Gagné's (2008) *Differentiated Model of Giftedness and Talent 2.0* (DMGT) within the higher education context, the academic advisors can be placed as environmental catalyst, both in *individuals* (EI) – taking a role as a mentor; and *provisions* (EP) – taking a role of administrative provisions. Academic advisors potentially serve as a vital first point of contact, providing initial support for a range of student issues, including personal and psychological concerns, and effectively signposting to specialised services. While challenges exist, particularly with large advisory groups, the commitment of teaching staff interviewed to create a supportive environment is evident, with advisors offering personal support that could profoundly impact students' overall wellbeing and academic success, including that of AGS.

The AGS in this study, in the main, regard challenge as a critical driver of growth when it is meaningful, relevant, and accompanied by support. Competition and social comparison within the university context can push students towards excellence, but they also carry risks of pressure and reduced confidence. Similarly, rigour in secondary schooling can prepare students for higher education. However, if the rigour is imposed to AGS without autonomy or consideration of wellbeing, it could result in disengagement or burnout of AGS. The influence of teachers within the higher education context, in their ability to create stimulating, inclusive, and supportive environments, often determined whether academic challenge was experienced as motivating or exclusionary. In this study, the support provided by lecturers and academic advisors similarly shaped whether students perceived challenge as developmental or overwhelming, highlighting the importance of responsive academic guidance.

Further findings as indicated in section 6.5.1 of Chapter Six, revealed that AGS experience a multilayered system of pressure to maintain high academic standards, face financial challenges, and feel the weight of societal expectations, that shapes their identity and wellbeing. Drawing upon the DMGT 2.0 model, finances represent the *investments* (DI) within the developmental process (D). These pressures interact to reinforce a performance-driven mindset where self-worth, financial stability, and social acceptance depend on continued excellence. Addressing these issues requires a coordinated institutional approach that promotes wellbeing, reframes success beyond grades, and acknowledges the cultural narratives influencing students' experiences. (parental pressure remains; financial pressure passes over, employment security)

The university under study places considerable emphasis on extracurricular activities, which are widely acknowledged by students, faculty, and administrators as essential to students' holistic development. Participating students identified extracurricular engagement as a crucial factor in shaping their leadership capacities, viewing such activities as authentic contexts for practising leadership. They described these experiences as positive and transformative, highlighting that extracurricular settings provide a safer and more flexible environment to explore leadership roles compared to formal classroom contexts. These spaces encourage experimentation, compassion, and informal mentorship, thereby facilitating genuine personal growth.

7.3 Contributions to Knowledge

To the best of my knowledge, this study is among the first systematic investigation of AGS within the context of tertiary education in Kazakhstan. It explores the pedagogical support they receive and the development of their leadership skills through both curricular and extracurricular activities. Previous studies (See for example, Nannings et al., 2025; Almukhambetova and Hernández-Torrano, 2020b) on gifted in higher education focused on the educational, social emotional and academic adjustment aspects of gifted students within the higher education. My study offers comprehensive first-hand data and an in-depth analysis of AGS' university experiences in Kazakhstan, thereby providing an additional contribution to the existing body of knowledge on gifted education in higher education, in the pedagogical domain and an original contribution in the leadership development domain. In this regard, I intend to make the thesis accessible in Kazakhstani libraries for future reference by educators and researchers, as well as through an online e-thesis repository.

While the findings presented here are not intended to be generalised, the detailed description of the case, research site, and transparent data collection and analysis procedures ensure the study's credibility and trustworthiness, offering suggestions/principles/recommendations for other researchers/policy makers/practitioners in higher education to consider within their own specific contexts. This case study raises several important questions concerning educational policy and practice, including identification, recognition of AGS at the university, as well as the need for systematic support for AGS as they transition from school to university. Policymakers may find these insights applicable in their own contexts.

The research also highlights the pivotal role of university teachers in supporting AGS. Teacher participants acknowledged that working in mixed-ability classrooms can be challenging, as AGS often differ significantly from the general student body and may become disengaged if the curriculum fails to meet their intellectual needs. A need for targeted teacher professional development programmes to equip university staff with the skills necessary to effectively support AGS in formal classes was emphasised. From a policy perspective, the university regularly offers professional development initiatives for employees in both academic and administrative positions; however, their content and focus may require refinement to better address the needs of gifted learners.

This research has primarily adopted an interpretive case study approach to explore the experiences of AGS in a Kazakhstani university, with particular attention to the institutional support available to them. The theoretical contribution of this study is grounded in the application of Gagné's (2004) *Differentiated Model of Giftedness and Talent* (DMGT) in a Higher Education context. This framework is traditionally employed in the field of educational psychology and school-based gifted education.

Applying the DMGT 2.0 to the higher education context has provided valuable insights into the developmental processes of AGS beyond school settings. The model distinguishes between *giftedness* (natural abilities) and *talent* (systematically developed skills), mediated by environmental and intrapersonal catalysts. My findings revealed that AGS who transitioned from gifted schools to university settings were supported by a combination of these catalysts. Within the university environmental supports, such as specialised co-curricular (e.g. internships, Edu Career, Beta Career, Zhas Maman programmes) and extracurricular programmes (e.g., competition, Enactus programme, student self-government) teachers' readiness in providing academic and emotional support, academic advisors' versatile roles in supporting AGS, and access to a network of like-minded peers, served as key enablers of their academic and leadership development. These programmes have been thoroughly investigated in section 5.4.2 of Chapter Five. Student responses in section 5.3 of Chapter Five further indicated intrapersonal factors, including motivation, perseverance, and self-regulation as reinforcing factors for their successful adaptation to the academic environment of the university. The university further contributed to the student development in academic excellence and leadership domains through AGS participation in range of competitions (e.g. Enactus, national competitions). This study extends Gagné's model in two significant ways. First, by situating DMGT within the higher education context of Kazakhstan, it demonstrates how institutional factors, such as

academic advising and extracurricular opportunities, function as *new forms of environmental catalysts* not explicitly emphasised in Gagné's original model. Second, the findings suggest that *cultural and contextual elements* (e.g., national educational reforms, and prestige of gifted schools) shape the development of talent in ways that differ from Western conceptualisations embedded in the DMGT. For instance, in the Kazakhstani context, gifted schools are considered to be specially designed schools with highly selective admission creaming-off the best candidates from comprehensive schools, in other words intellectual/academic segregation. Whereas, in some countries (e.g., Nordic countries, UK, the Netherlands) conceptualisation of gifted education is often associated with more inclusive practices, where students with diverse backgrounds and mixed ability students are placed in same classroom.

This research contributes to the theoretical development of DMGT by (a) extending its application to the university level, (b) highlighting the significance of institutional and cultural factors as additional catalysts, and (c) demonstrating how giftedness transitions into talent within higher education systems in Kazakhstani contexts. These insights offer a valuable foundation for future research on giftedness and talent development across diverse educational environments. While Gagné's DMGT 2.0 effectively differentiates giftedness from talent and highlights the catalysts that facilitate the transformation of natural abilities into developed competencies within a higher education context, a more holistic and broader lens through Bronfenbrenner's ecological systems theory (see p.63) usefully extends this model by situating talent development within interconnected layers of environmental influence, ranging from proximal interactions with university teachers and peers to broader, institutional, cultural and societal influences. When considered together, these frameworks offer a more comprehensive and integrative understanding of gifted development, emphasising the dynamic and context-dependent interaction between innate potential and environmental conditions in shaping gifted students' developmental pathways over time. Below in Figure 7.1 a framework is presented illustrating how the DMGT 2.0 integrates with Bronfenbrenner's Ecological Systems Theory to explore and enable talent and leadership development among AGS in HE. The framework is visually represented by six concentric circles, with directional arrows illustrating dynamic interactions among individual characteristics, developmental processes, environmental contexts, and outcomes. At the core of the framework, the inner red circle represents the individual, conceptualised here as an academically gifted university student. On the lower lefthand side is a larger red circle (zoomed red circle) representing academically gifted students in higher education (AGS), characterised by their natural abilities, or *gifts*, as

conceptualised in Gagné's DMGT model. In this context, natural abilities may include *intellectual, creative*, and *social abilities*, as well as physical and muscular abilities for students inclined toward sports-related domains. In addition to natural abilities, AGS are influenced by intrapersonal catalysts, which include both physical traits (e.g., health) and mental traits such as *personality, resilience,* and *self-regulation*. Intrapersonal catalysts also encompass *awareness, motivation,* and *volition,* which play a critical role in shaping students' engagement with learning opportunities and their persistence in developmental pathways. Together, natural abilities and intrapersonal catalysts form a foundational base that enables the transformation of potential into *competence (talent)*.

Within this framework, competence is defined as the manifestation of developed talents, with a specific focus on leadership skills development and academic excellence. The transition from potential to competence occurs through *developmental processes*, represented by a smaller arrow nested within a larger arrow, indicating both directionality and sustained effort over time. Developmental processes comprise *activities* (access, content, and format), *progress* (stages, pace, and critical turning points), and *investment* (time, effort, energy, and financial resources). These developmental processes do not occur in isolation; rather, they are continuously shaped by *environmental catalysts*, conceptualised through an ecological systems perspective. The outer concentric circles represent the **microsystem, mesosystem, exosystem, macrosystem,** and **chronosystem**, each exerting distinct but interconnected influences on AGS development. The **microsystem** includes individuals and groups who interact directly with AGS, such as parents, peers, teachers, academic advisors, and mentors. These actors play an immediate and personal role in supporting or constraining students' developmental trajectories. The **mesosystem** encompasses institutional provisions such as co-curricular and extracurricular programmes, enrichment opportunities, and university support services. Although AGS may not engage with all such provisions directly, their existence within the university ecosystem creates potential developmental pathways. The **exosystem** comprises broader institutional structures, including university policies and internally provided opportunities (e.g., leadership programmes, research initiatives, or online learning platforms). These elements shape AGS development indirectly by influencing the conditions under which educational experiences are designed and delivered. At a broader level, the **macrosystem** includes national higher education policies, educational grant systems, and prevailing cultural values, beliefs, and socioeconomic factors that frame how talent development is understood, supported, and prioritised within society. Encasing all other systems is the **chronosystem**, which captures the influence of time, historical events, and socio-

technological change on talent development. Examples include the advent of computers, the internet, and artificial intelligence, all of which have reshaped learning environments and leadership competencies in higher education. *Chance* is situated within the chronosystem, as being born in a particular place and time, under favourable or unfavourable conditions for talent development, is inherently contingent and beyond individual control.

Finally, *health and wellbeing* are conceptualised as a central, sustaining force within the framework, represented by a prominent arrow extending from the individual toward competence. Health and wellbeing accompany the developmental process throughout, underscoring their essential role in enabling sustained engagement, resilience, and achievement. Consistent with contemporary higher education research, this framework recognises student health and wellbeing as an essential part of developing academic excellence and leadership skills, rather than something that happens alongside them.

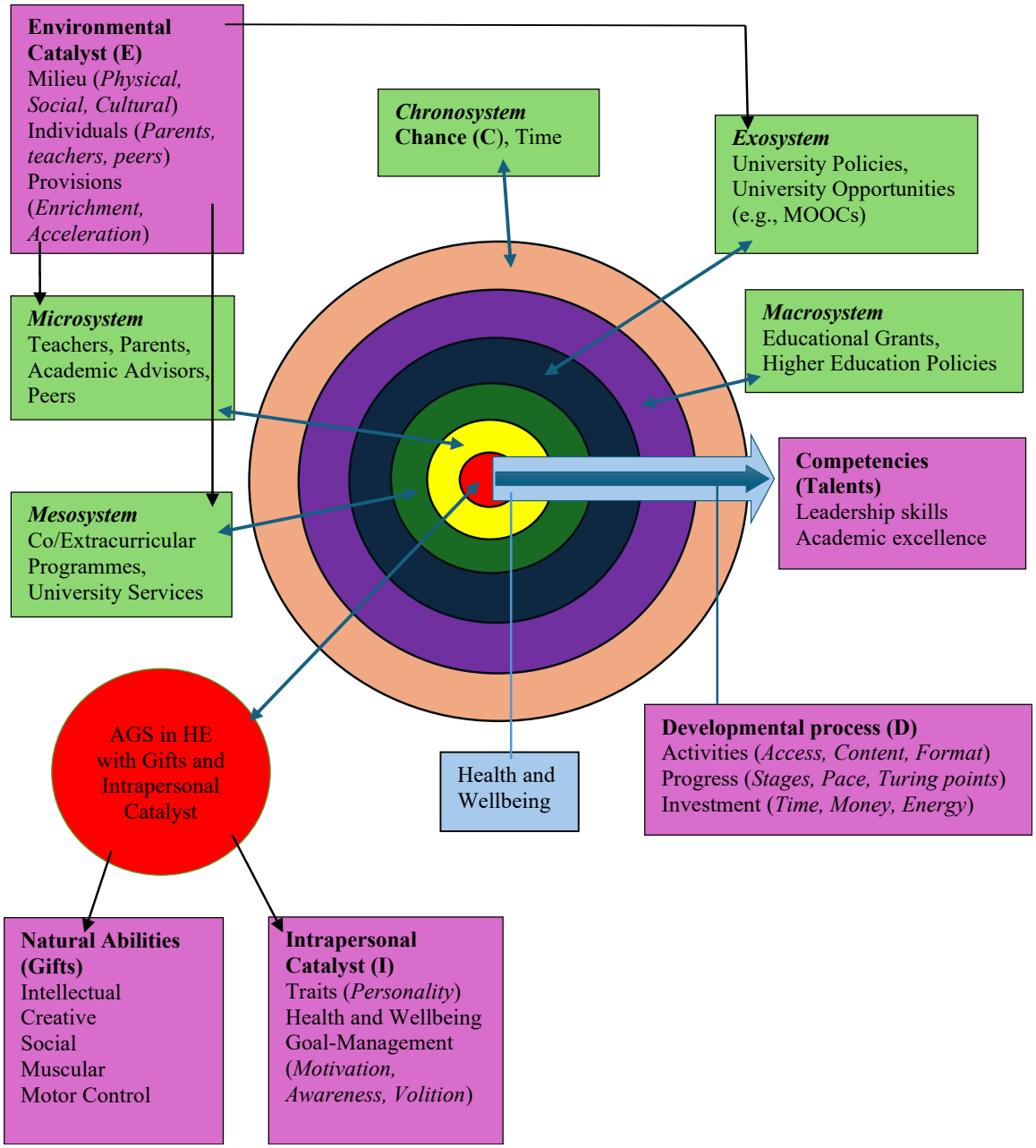


Figure 7.1 An integrated framework of DMGT 2.0 with Bronfenbrenner's Ecological Systems Theory for AGS in HE

Overall, this study aims to illuminate the current educational and social challenges associated with AGS in higher education including the need for 1) teacher professional development; 2) recognition of AGS in higher education; 3) accommodations and provisions and to serve as a foundation for further research in this underexplored area. It provided university stakeholders with a platform to express their perspectives and experiences and offers policymakers valuable insights for making more informed decisions regarding the education and support of AGS in Kazakhstani universities. The following section will now discuss the limitations of the current study.

7.4 Limitations of the Study

Challenges of Translation

A significant challenge that had to be overcome in this study was the translation of interview transcripts from Kazakh and Russian into English, which required preserving the authentic meaning. Translation and conveying meaning become especially "challenging in qualitative research when language and cultural differences require translation, which creates risks for loss of meaning and reduce study validity" (van Nes et al., 2010, p.314). This process is complex, as it requires the researcher to capture subtle nuances, tone, and context that are deeply embedded in the source language. To ensure accuracy, the researcher relied on accurate self-translation and review. A key methodological step that could be considered in future research is member checking. This involves returning the translated transcripts to the participants for their confirmation and approval of the accuracy of their statements (Birt et al., 2016). While this process is vital for ensuring the credibility and trustworthiness of qualitative data, it was not feasible in this study due to severe time constraints brought about by translation and transcription of the interviews, summer holidays for student participants, and my PhD research timeline. The transcription of interviews alone took over four months, making it logistically impossible to re-engage participants for this final review. Consequently, the analysis and findings are based solely on the researcher's interpretation of the translated data. It is acknowledged that this may not fully reflect the participants' original intent. I recognise the limitations of translation in research are inevitable. Certain nuances specific to one language might not be effectively translated into other languages, encompassing elements like colloquialisms, jargon, idiomatic expressions, and similar linguistic traits (Esin et al., 2013). However, the limitations could be mitigated to some extent. One of the common techniques in dealing with translation related problems is back translation. Back translation technique involves translating a document from the target language back into the source language to ensure consistency (Behr, 2016). While back translation can serve as a method for checking the accuracy of a translated document, it has inherent limitations as a back-translated text may read differently from the original without capturing the subtle shifts in meaning that occur during the initial translation, (Behr, 2016). Furthermore, according to Swaine-Verdier et al. (2004, p.S27), a comparison process of the multiple translations and back-translations, usually done by a consensus group, becomes "unmanageable due to the overwhelming volume of text generated." However, the advancement of technology allowed me to do this

procedure in a timely manner. To enhance translation quality, I used Google Translate for back translation and compared the translated versions with the meaning in source language and made sure I removed all discrepancies in translation. Even though Google Translate may not be considered as the most accurate translation tool, for me it was the most convenient, time-efficient and user-friendly tool available. Further, to ensure translation accuracy I employed a manual review after each translation. Future studies should prioritise allocating sufficient time and resources for member checking to further enhance the rigour and trustworthiness of the data. By building this crucial step into the research plan, researchers can ensure their interpretations accurately reflect the participants' voices. Nonetheless, as a fluent speaker of Kazakh, Russian, and English, and someone deeply familiar with the cultural nuances of the research site, I approached the translation process with informed sensitivity. This linguistic and cultural familiarity also shaped my positionality, as discussed in the following subsection.

Researcher Positionality and Bias

While the researcher's insider position can be a strength, there are also limitations associated with this position. As a graduate and former teacher at a gifted school, and with administrative and teaching experience at the university level, the researcher possesses a deep contextual understanding. While this positionality provided valuable insights, it may have posed a risk of unintentional bias in data interpretation. The pre-existing relationships with several participants (three out of five teaching staff and all three executive board members who were former colleagues) led to less formal conversations, at times moving away from the main topic, which may have influenced the depth or nature of their responses. Additionally, because teachers and executive board members held divergent perspectives and levels of experience with AGS, and in the absence of clearly defined guiding policies, the insights drawn from students' own experiences were ultimately more informative and valuable. Student participants, who did not have a prior relationship with the researcher, appeared more comfortable and honest. This might have been the outcome of repeated assurances of confidentiality.

Another limitation of this study was the decision not to keep a formal, continuous reflexive journal. While I did engage in self-reflection throughout the research, particularly by note-taking at the time of the interviews and during the transcription and analysis phases, I did not systematically document my thoughts, feelings, and potential biases in a dedicated journal. This omission could have implications for the transparency of how my insider

position may have influenced the interpretation of the data. Although I was conscious of my potential biases, a formal record might have helped to provide a more detailed account of how these were managed. In future qualitative research, I will ensure that reflexive journaling is a central part of the research design to enhance the rigour and trustworthiness of the findings.

Methodological and Logistical Limitations

This study was subject to several methodological and logistical limitations, some of which were outside the scope of the study. For example, planned mixed composition focus groups were not consistently achieved due to several student no-shows despite students having signed up to attend. The fieldwork period was limited to just 15 weeks, beginning in early March, due to external factors such as health issues and delayed ethical approval. This resulted in a highly compressed data collection timeline which made it impossible to pilot the interview questions. The timing of the interviews, which coincided with the end of the academic year in Kazakhstan, made it particularly challenging to secure student participation in formal activities. While there was adequate time for conducting interviews, the absence of in-person interactions, a consequence of these constraints, prevented the observation of non-verbal cues and interactions. These could have provided further holistic understanding of the participants' experiences.

Semi-structured interviews, while well suited to capturing individual perspectives in depth, carry inherent limitations. As a self-report method, interview data is subject to recall bias, since participants were asked to reflect on past experiences that may have been reconstructed or reframed over time (Cohen, Manion, and Morrison, 2018). Social desirability bias is also a risk: participants, particularly staff members discussing institutional practice, may have presented more favourable accounts of university support than they privately hold, especially given the researcher's own affiliation with the institution (Mercer, 2007). Additionally, the interviewer's presence and question framing can shape responses in ways that are difficult to fully control for, even with a semi-structured protocol (Cohen, Manion, and Morrison, 2018).

Focus groups introduce a distinct set of limitations tied to group dynamics instead of individual recall (Wilson, 1997). Group discussions can encourage people to agree with others instead of sharing different opinions, especially when quieter participants feel influenced by more outspoken or higher-status group members. Sensitive topics, such as

criticism of university practices or personal academic struggles, may also be underreported in a group setting compared with a one-to-one interview, since participants could be reluctant to disclose such views in front of peers (Greenwood et al., 2014). The researcher's role in managing group discussion further introduces a layer of influence over which voices dominate the conversation and which are left underexplored (Stalmeijer et al., 2014).

The limitations of these methods to gather the views of my participants were recognised and steps were taken to mitigate the limitations. The focus groups were organised by participant role (e.g., separating students from staff) to reduce power-related conformity (Greenwood et al., 2014), and confidentiality was repeatedly emphasised to encourage openness. At the beginning of each interview and focus group, time was taken to establish rapport by explaining the purpose of the study, encouraging participants to speak freely, reassuring them that there were no right or wrong answers, and emphasising that participation was voluntary and that they could decline to answer any question or withdraw at any time. During the interviews, a conversational and non-judgemental approach was adopted to help participants feel at ease and to facilitate open discussion. In the analysis, participants' perspectives were represented through the use of direct quotations and careful attention to preserving the meaning of their accounts, ensuring that the themes remained grounded in their experiences. In addition, the decision to collect data from three stakeholder groups: students, teaching staff, and executive board members, together with analysis of institutional policy documents, was motivated by both practical and methodological considerations. Drawing on multiple stakeholder perspectives and documentary evidence enabled triangulation across data sources, thereby strengthening the credibility and trustworthiness of the findings (see Section 4.5, Trustworthiness). However, these steps could not completely eliminate the underlying limitations of the methods themselves. As such, the findings should be read as reflecting participants' articulated perspectives within a co-constructed interview or group setting (Stalmeijer et al., 2014), rather than an unmediated account of their views or experiences.

Generalisability

The case study approach inherently limits its generalisability, a point of contention for some researchers who prioritise the ability to generalise findings to broader populations (Tsang, 2014). This study focused on a single private university with a significant population of gifted school graduates. Therefore, its findings cannot be applied to other

higher education institutions. Additionally, the unique conditions and time frame of the fieldwork mean that the results may not be replicated at a different time. However, the research's primary objective was not to generalise but to provide a rich, in-depth analysis of a specific context. This approach, as noted by Yin (2018), offers a nuanced understanding that is often missed in broader, quantitative studies. The value lies in the detailed description of the case itself, rather than its applicability to other settings.

7.5 Recommendations

The recommendations outlined in this chapter are the result of a multi-layered analytical process that combined evidence from university policy documents, a critical review of the scholarly literature, relevant theoretical frameworks, and the reflexive thematic analysis of interviews and focus group discussions. The integration of these diverse data sources provided a nuanced understanding of institutional practices, stakeholder perspectives, and the lived experiences of AGS. Different strands of evidence came together in distinctive ways to inform each recommendation: at times reinforcing existing practices, at other times highlighting opportunities for enhancement or revealing areas where institutional structures could evolve to better support AGS. Consequently, the recommendations presented here are forward-looking and developmental in nature, reflecting both the strengths illuminated by the study and the new possibilities that emerged from the findings. This analysis is based on a broader understanding of inclusive education than the one currently reflected in Kazakhstani policy. As discussed in Section 2.4, the focus of inclusive education should consider supporting all groups of students, including disabilities, academically gifted students and other groups whose educational opportunities are affected by social and structural factors. The findings discussed in Section 6.3 support this broader view. They show that identifying gifted students at the university level is closely linked to socioeconomic background, highlighting the issue of "chance" within DMGT 2.0 model proposed by Gagné (2008). Considering this, students who are less advantaged in terms of socio-economic status, limited by geographical setting, and having limited resources for preparation are likely to experience significant difficulties in competing with students who do not face such challenges, particularly in being admitted to gifted schools. Similarly, access to higher education can also raise the "same chance" issue. Students from NIS and BIL schools often have access to better resources and learning opportunities before university than students from comprehensive schools. As a result, any effort to increase support for academically gifted students could unintentionally widen existing inequalities. To avoid this, policies should address systematic barriers that could lead to unequal opportunities that exist before students reach university.

The University

The study revealed that varying interpretations of giftedness exist among stakeholders, indicating an opportunity for the university to strengthen conceptual clarity and alignment. By explicitly articulating, through discussion with staff and students, who is recognised as

academically gifted within institutional policy documents, the university can establish a shared foundation for support, communication, and practice. This clarity would complement the existing reasonable adjustment policies, which currently focus primarily on students with disabilities, by extending institutional recognition to AGS and other academically distinctive groups.

The findings further suggest that professional development offers significant potential for advancing inclusive practice. While teacher development programmes are already in place, the data suggest provision of explicit programmes with more emphasis on how to support AGS is missing. Therefore, more explicit engagement with the needs of AGS, such as effective differentiation strategies for mixed-ability classrooms, would be beneficial. This presents the university with an opportunity to enhance pedagogical practice by integrating modules that support instructors in tailoring instruction, materials, and assessment approaches to diverse cognitive profiles within their courses.

In addition, the university may consider piloting a targeted programme on differentiated instruction in partnership with interested faculty members. Through teacher professional development programmes with emphasis on mixed-ability groups, teachers could learn to manage mixed-ability classrooms more effectively by tailoring materials, assignments, and teaching methods to students' cognitive readiness and motivational needs. Differentiation could focus on encouraging curiosity and sustained engagement, helping all students from all backgrounds, realise their potential within inclusive environments. Such a pilot would allow the institution to build on existing strengths while generating context-specific insights into how mixed-ability teaching can be enacted effectively in higher education. Importantly, the findings indicate that teachers should be encouraged and supported to voice their professional learning needs, ensuring that development pathways are genuinely responsive and collaborative.

Gifted education incorporates specialised practices, approaches, and theories to address the unique needs of these students, including enrichment – covering additional material; and acceleration – advancing through curriculum at a faster pace (Robinson, 1997). It appears from the findings that the university has promising potential to provide enrichment and acceleration opportunities for their AGS. In line with the broader goal of strengthening differentiated instruction and creating opportunities for acceleration, the university could further develop its use of digital technology-enhanced learning, particularly through the expansion of Massive Open Online Courses (MOOCs). While MOOCs are currently

offered primarily to students participating in exchange programmes, expanding this practice to the broader student community offers significant potential for flexible and individualised learning. Such courses can complement traditional instruction and contribute towards inclusivity for students requiring additional support needs, by allowing students to progress at an accelerated pace, explore advanced content, or engage in personalised enrichment activities that align with their interests and abilities. For AGS in particular, the self-paced and autonomous nature of MOOCs can provide an environment that supports deeper intellectual engagement. Expanding this provision would therefore contribute meaningfully to a more inclusive instructional model that accommodates diverse learning needs and preferences across the university. It is important to note, however, that expanding provision does not always guarantee equal access. Self-paced online learning of this kind assumes a baseline of reliable internet connectivity, access to a personal device, and discretionary time which are not equally distributed among the student population. Students from rural regions, where infrastructure and resource disparities remain well documented (see Section 2.3), or those balancing paid employment alongside their studies (see Section 7.5, Policy Makers), may be structurally less able to benefit from an expanded MOOC offering than their more resourced peers, even where access is nominally open to all. Realising the equity potential of this recommendation would therefore require accompanying certain measures such as subsidised device or data access, or protected time allowances along with expanded provisions.

The study also highlighted the potential of the advisory system, which already functions as a central mechanism for both academic and social support for students, as stated in their policy documents (2021b). Advisors serve as crucial intermediaries between students and the university and are given specific roles to provide guidance in university portal registration, introducing university departments, and organising regular meet ups and facilitate socio-cultural engagement to all students, including AGS. Yet workload, inconsistent motivation, and varying levels of recognition present challenges to fully realising a holistic model of student support. Therefore, strengthening institutional mechanisms, such as reducing advisor-to-student ratios and distributing pastoral responsibilities more evenly among academic staff, could enhance the support experiences of all students, including AGS. Supplementary seminars on working with diverse student populations (e.g. gifted, lower socio-economic status, disability, etc.) would further reinforce inclusive practices across the institution. As with the recommendations above, strengthening the advisory system carries a risk of uneven realisation in practice. Because advisor engagement is already inconsistent across the institution, an expanded or

restructured advisory role could, without deliberate oversight, continue to depend on the "same chance" element identified in Section 6.3, where access to support relies on encountering a proactive individual advisor, whereas the focus should be more on structured, equally applied institutional mechanisms. Monitoring mechanisms to ensure consistent advisor engagement across student groups would therefore be a necessary companion to any structural change.

Policy Makers: Addressing Impact of Pressures on Student Health and Wellbeing

The research illuminated the complex relationship between financial support structures and student wellbeing. While state-funded grants and stipends play an essential role in widening access, the requirement to maintain a specific GPA and avoid grades below 70% (+C) creates a psychologically demanding environment for many students. Although these criteria apply to all students, AGS highlighted the pressure associated with sustaining eligibility while balancing academic commitments and, for some, employment.

These findings open up an opportunity for policymakers to re-evaluate existing financial aid frameworks with a view to promoting academic excellence while reducing unintended psychological burdens. A more flexible or tiered system could better reflect the realities of student life, particularly for those navigating multiple responsibilities. As the regulations governing state grants fall under the authority of the Ministry of Science and Higher Education, meaningful change would require review at ministerial level. Such a review could consider alternative mechanisms for incentivising achievement – mechanisms that support wellbeing rather than intensify stress. This represents an opportunity for policymakers to refine financial support structures in ways that align with broader goals of equity, wellbeing, and academic success.

Future research

As discussed in the Methodology Chapter, this study employed semi-structured interviews, focus group discussions, and document analysis to explore institutional support mechanisms available to AGS. The interview questions were predesigned with flexibility for adaptive follow-up questions to maintain relevance and focus. The semi-structured format allowed for rich, flexible dialogue in which participants could express their perspectives in depth, while also enabling me to guide the conversation in ways consistent with the study's aims. In line with reflexive thematic analysis, the interpretive engagement

of the researcher is understood as an integral and productive aspect of knowledge generation rather than a methodological constraint. The insights I gained addressed many of the questions I initially had at the outset of my research, opening new opportunities for future exploration. The qualitative findings of this study revealed several promising directions for further investigation.

A further study on health and wellbeing of academically gifted students in higher education setting seem to have a potential as a next step. Within my conceptual framework (see Figure 7.1 An integrated framework of DMGT 2.0 with Bronfenbrenner's Ecological Systems Theory for AGS in HE) a *wellbeing* element has been identified as vital part in transitioning the students' gifts into talent through developmental processes within the higher education.

Participants' discussions also highlighted the significance of extracurricular activities in developing leadership, communication, and socio-emotional competencies among AGS, suggesting a strong potential for exploring the role of co-curricular environments in shaping gifted students' university experiences.

Institutional support, though not systematic, is available for AGS according to university executive board member participants and university policy documents, which were discussed in detail in section 5.4.2 of Chapter Five. However, awareness among students remains limited, highlighting the lack communication within the university stakeholders.

The data also pointed to recurring themes of anxiety, stress, and sleep disruption associated with academic pressures. Although this thesis did not focus extensively on wellbeing, the prominence of these issues across interviews suggests a compelling direction for future studies examining the mental health experiences of AGS within higher education.

Another important insight emerging from participant narratives relates to parental involvement in academic and career decision-making. The nature and extent of this influence, with focus on its implications for university adjustment and long-term educational trajectories, warrants more systematic inquiry.

Building on these findings, future research would benefit from adopting broader, more comparative designs. A multi-institutional study across Kazakhstani universities could illuminate how factors such as socioeconomic background, gender, and disciplinary

pathways shape students' academic trajectories. Additionally, future research could involve investigating gifted schools such as Daryn, FizMat and other specialised schools. Furthermore, a comparative study of students from specialised (gifted) schools and mainstream comprehensive schools could enrich understanding of how differing educational cultures influence motivation, perceptions of success, and preparedness for university study. The ultimate objective of such analysis would be to identify the unique strengths and best practices of each educational pathway, providing a basis for mutual intellectual enrichment and knowledge exchange that could benefit the broader educational system.

Realising a multi-institutional, comparative design of the kind proposed above would require formal partnerships with each participating university and school, and, given the centralised governance of higher education in Kazakhstan, likely direct engagement with the Ministry of Science and Higher Education to secure institutional access and legitimacy. Unlike the present study, which drew on my existing professional relationships at a single institution, a broader design would require negotiating access from a position that does not have pre-existing insider status at each site, extending the timeline needed simply to establish participation.

This study was conducted single-handedly within the constraints of a PhD timeline, which shaped decisions such as the compressed 15-week fieldwork period and the reliance on self-translation rather than member checking, where participants comment on transcripts. Although applying member checking could have potential risks alter the genuine thoughts collected at the initial stage. A multi-site, mixed-methods study of the scope proposed here would not be feasible for a lone researcher; it would require a funded research team, including research assistants to support data collection and translation/transcription across sites, and dedicated project funding to cover translation costs, and survey licensing.

Within the scope of a single-researcher PhD, the case study design adopted here represented the most feasible approach available; the extensions proposed above are more realistically pursued as a funded, team-based postdoctoral or externally funded research project.

In conclusion, future research should extend and deepen the insights generated by this study, contributing to a more holistic understanding of the academic and health and wellbeing experiences of AGS within higher education. The insights gained could inform

more equitable and effective policies for gifted education in higher education contexts. The next and final section of this thesis provides a reflective account of my PhD journey and its contribution to my professional growth as a researcher.

7.6 My Personal Reflection on the PhD Journey

Embarking on my doctoral studies marked both a challenging and transformative period in my academic journey, particularly as I entered this research without extensive prior background in the field in which my study is situated. My previous academic experiences had been largely focused on English language teaching practices within secondary education and on administrative aspects of higher education institutions. However, when I studied in high school, I was admitted to a school for “gifted” children, followed by professional pursuit working in a gifted school, as well as encountering gifted school students while teaching at the university. Thus, pursuing doctoral research in this area represented not only an intellectual challenge but also an opportunity for growth, exploration, and personal development.

One of the most significant aspects of this journey was that it provided me with my first genuine encounter with in-depth academic research. Although I had previously completed a master’s degree at an institution in the United States, I gradually came to the realisation that my knowledge and skills in conducting research were relatively limited. I attribute this to the structure of my earlier educational experiences, in which I was often given the choice between completing a research project and sitting an examination. At that time, I consistently opted for the latter, as it felt more straightforward and familiar. However, through my doctoral work, I came to appreciate how much I had previously overlooked by avoiding research. This process revealed the depth and complexity inherent in conducting academic inquiry. Additionally, it instilled in me a deeper respect for the discipline of educational research.

The journey also facilitated my personal and professional growth by enhancing my confidence in undertaking independent research. Through the various stages of my study, I acquired both conceptual and practical insights that enabled me to view myself both as a learner and as an emerging scholar capable of contributing to my field. Attending numerous seminars, workshops, and conferences played a crucial role in this regard. These academic engagements exposed me to diverse perspectives and allowed me to reflect on the expectations and responsibilities of a researcher within education studies. In particular, I learned about the importance of adopting an open-minded stance, engaging critically with existing literature, and maintaining independence when interpreting and analysing findings.

Another profound realisation that emerged during my doctoral process was the ethical and professional responsibility involved in research. As I worked with my participants, I became increasingly aware of the importance of representing their voices with honesty, fairness, and accuracy. This required me to develop a heightened sensitivity to their perspectives and to interpret their experiences as faithfully as possible. I recognised that the act of researching consists of engaging with the lived experiences of individuals who generously share their stories which is represented in the collected data. This awareness shaped my approach throughout the research and emphasised the seriousness of my role as a qualitative researcher.

Equally transformative was the process of data collection, which left a lasting impression on me. Spending meaningful time with my participants enriched my understanding of the research context as well as providing me with invaluable insights into the ways in which gifted students perceive their academic experiences at the university. I particularly valued the openness and thoughtfulness of the students, teachers and executive board members of the university I engaged with, whose reflections offered rich perspectives on how institutions attempt to address the diverse needs of learners. Revisiting their responses multiple times allowed me to uncover new layers of meaning, and this iterative engagement contributed to the depth of my analysis.

When I began this doctoral research, I held a largely fixed, trait-based understanding of giftedness: the more intellectually capable an individual, the more "gifted" they were considered to be. This position was, I now recognise, shaped by my own biography within the Kazakhstani education system, first as a student at a school for the gifted, and subsequently as a teacher within the same type of institution. Having been immersed in this system from both sides, I had implicitly accepted its underlying premise: that elite, selective schooling represented the only viable route through which Kazakhstan could cultivate high-achieving citizens.

Over the course of this study, engagement with international literature on giftedness, spanning divergent conceptions of talent identification and development (e.g. Gagné, 2008; Renzulli, 2011; Subotnik et al., 2011; Worrel et al., 2018), prompted a gradual reorientation in my thinking. The first shift was conceptual: instead of treating giftedness as a fixed, innate trait, I came to understand it, through Gagné's Differentiated Model of Giftedness and Talent, as a developmental process contingent on other catalysts such as opportunity, support, and access rather than ability alone. This reframing connects directly

to the theoretical framework underpinning this thesis because Gagné's (2008) model gradually shaped how I made sense of the data throughout the research. Instead of focusing primarily on students' individual abilities, I paid greater attention to the ways in which university policies, teaching practices, and wider institutional contexts either supported or limited the development of their potential. This shift changed the way I interpreted participants' experiences, leading me to view giftedness not as a fixed characteristic but as something that develops through the interaction between individuals and the opportunities available to them.

The second shift was in scope. My earlier understanding of giftedness centred narrowly on academic and intellectual ability. As my research progressed, I came to recognise a broader, multidimensional conception of giftedness, one that encompasses leadership, creativity, and socio-emotional capacities alongside academic achievement. This is reflected in the design of this study, as my decision to examine leadership development, along with academic pedagogy, can be considered as an example of this widened understanding of what giftedness can mean. Examining leadership development alongside academic pedagogy highlighted that giftedness cannot be understood solely as an internal student capacity, as it is deeply mediated by the broader organizational structures of the institution. Institutional leaders directly shape policy frameworks and resource distribution. If their understanding of giftedness is narrow or absent, the institutional support structures for such student might remain limited or non-existent. Consequently, investigating leadership provided a critical lens for understanding how institutional definitions of giftedness directly impact equitable access to talent development opportunities.

The third, and most significant, shift concerned equity. I began to question why access to high-quality, enriched education in Kazakhstan should remain confined to a narrow band of roughly 2% of the school population identified through selective admission. I started to think why this indicator cannot be extended more broadly to 10, 20, or 30% or even more of school population. This reframing led me to view the current model, where a small number of specialised schools "cream" the highest-performing students from the comprehensive system, not as a neutral or inevitable structure, but as one policy choice among several, with significant implications for equity. This critical stance was reinforced by patterns evident in the literature and data I engaged with over the course of the study: Republican educational Olympiads, though formally open to all students nationally, are won overwhelmingly by NIS and BIL students in practice, such that the competition functions, in effect, as a contest between two school networks rather than a genuinely

national one. I came to see this not simply as a reflection of differences in ability, but as evidence of a structural mechanism, whereby “demonstrated achievement” partly reflects prior access to preparatory resources and social and cultural capital.

This evolution in my thinking has implications that extend beyond this thesis. It has shaped my conviction that future engagement with giftedness and talent development, in Kazakhstan and elsewhere, should proceed from a starting assumption of expanding access instead of protecting exclusivity.

Ultimately, the PhD journey provided me with both academic and personal fulfilment. I emerged from the process with a stronger grasp of my research field, a more nuanced understanding of qualitative inquiry, and a greater appreciation for the complexities of educational practice. Above all, this journey has instilled in me the conviction that meaningful research requires openness, patience, and a commitment to engaging with participants’ perspectives in a respectful and authentic manner.

One of the most important skills I have gained through my PhD journey and continue to develop is the ability to be critical of everything connected to my research. This includes examining my fieldwork, analysing participants’ responses, and engaging with the literature in a thoughtful way. For me, this has been particularly significant because of the cultural context in which I was educated. In Kazakhstan, the idea of being “critical” often carries negative associations. This stems from the legacy of the Soviet system, where questioning official decisions was unacceptable, and obedience to authority was expected. The same applied within education, where students were rarely encouraged to think independently or to challenge established perspectives. Unfortunately, elements of this mindset remain visible in the current educational system. Against this background, my doctoral experience has been transformative, helping me to gain the confidence to approach issues with a more critical and analytical mindset. Learning to see processes, arguments, and data through the lens of critical thinking has been a liberating and empowering experience.

That said, I cannot claim that the entire process has been easy or enjoyable. The PhD has often been a solitary journey, and there were moments when I felt overwhelmed and considered giving up. The writing process, in particular, was full of challenges. At the beginning, I struggled to determine the exact focus of my research. This required an extensive amount of reading to identify what had already been explored and where genuine

gaps existed. Identifying the research area was the crucial step, as it would lay the path on how I would carry on the study, impacting my research questions and research methods I employ. As I progressed, I also experienced uncertainty about whether I would manage to cover all the research areas I initially identified, which eventually led me to reconsider the scope of my study and the specific research questions to ensure they were feasible within the PhD time limit. Initially, before starting the programme, my plan was to conduct a mixed-methods study exploring best practices in gifted schools and how these could be applied in comprehensive schools to reduce the gap between elite institutions and state schools. However, after immersing myself in the literature, I realised that the university experiences of graduates from gifted schools represented an underexplored area, while also aligning more closely with my professional background. This shift in focus was difficult at the time, but it proved to be a turning point in strengthening the originality and relevance of my research.

Despite these difficulties, I never lost sight of my long-term goal. There were certainly times when I asked myself why I had chosen to pursue a PhD, but I never lost hope in the value of the journey. The constant support of my family and the guidance of my supervisors played a crucial role in keeping me motivated. Looking back now, I can honestly say that the PhD has been a remarkable and deeply rewarding experience. Although it tested my resilience, it also helped me grow both academically and personally. I am grateful for this journey, and I feel proud to confirm that pursuing my doctoral degree was the right decision for me.

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Appendices

Appendix A. Ethical Approval Letter

University of Glasgow

College of Social Sciences

09 February 2024

Dear Didar Zhakanbayev

College of Social Sciences Research Ethics Committee

Project Title: The role of Higher Education in developing academically gifted students as identified by gifted schools in Kazakhstan

Application Number: 400230073

The College Research Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Start date of ethical approval: 09/02/2024
- Project end date: 25/12/2025
- Any outstanding permissions needed from third parties in order to recruit research participants or to access facilities or venues for research purposes must be obtained in writing and submitted to the CoSS Research Ethics Administrator before research commences: socsci-ethics@glasgow.ac.uk
- The research should be carried out only on the sites, and/or with the groups and using the methods defined in the application.
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (https://www.gla.ac.uk/media/media_490311_en.pdf)
- Any proposed changes in the protocol should be submitted for reassessment as an amendment to the original application. The **Request for Amendments to an Approved Application** form should be used:
  https://www.gla.ac.uk/colleges/socialsciences/students/ethics/forms/staffandpostgraduateresearchstudents/

Provided on behalf of: College of Social Sciences Research Ethics Committee
The University of Glasgow
socsci-ethics-lead@glasgow.ac.uk

College of Social Sciences
University of Glasgow
Glasgow G12 8QF

Appendix B. Interview Indicative Questions

Interview Indicative Questions for AGS students

1. What school did you attend before starting your HE?
2. What programme are you enrolled in?
3. How does your programme curriculum challenge your intellectual capabilities and develop your skills?
4. How challenging do you find the materials provided by teachers?
    - How do teachers modify instructional strategies and teaching methodologies to meet your advanced learning needs and foster your intellectual growth?
5. How do you know whether your courses are successfully training you for your future profession?
    - Do you think your courses have developed your leadership skills during your studies?
6. What is teacher's role in motivating you in your studies?
7. How is leadership development integrated into the academic curriculum for students with advanced learning needs in your HEI?
8. How do you perceive the role of teachers, mentors or advisors in your academic and leadership development?
9. How do your teachers promote your leadership development?
10. How do you balance academic excellence with personal growth and self-care?
11. How do you handle the pressure of high expectations from various stakeholders, including your school, society, and government?
12. What extracurricular activities/clubs do you attend or a member of?
    - How do these extracurricular activities foster your leadership abilities?
13. How do you perceive the impact of curriculum and extracurricular activities on your leadership development in HEI?
14. In what ways do you think your leadership skills can benefit your community or society as a whole?
15. How do you feel your HEI's policies and practices support your leadership development and overall wellbeing?
16. How do you think your HEI can better tailor their programs to meet the unique needs of academically gifted students in terms of leadership development and wellbeing?

Appendix C. Participant's Consent Form

University of Glasgow

College of Social Sciences

Student Consent Form

Title of Project: The role of Higher Education in developing Academically Gifted Students as identified by gifted schools in Kazakhstan

Name of Researcher: Didar Zhakanbayev

Please tick as appropriate

Yes ☐ No ☐	I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.
Yes ☐ No ☐	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
Yes ☐ No ☐	I consent to interviews being video/audio-recorded
Yes ☐ No ☐	I acknowledge that participants will be referred to by pseudonym.

I agree that:

Yes ☐ No ☐	All names and other material likely to identify individuals will be anonymised.
Yes ☐ No ☐	The material will be treated as confidential and kept in secure storage at all times.
Yes ☐ No ☐	The material will be destroyed once the project is complete.
Yes ☐ No ☐	The material in the thesis will be retained in secure storage for use in future academic research.
Yes ☐ No ☐	The material in the thesis may be used in future publications, both print and online.
Yes ☐ No ☐	Other authenticated researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.

Appendix D. Participant Information Sheet

University of Glasgow

College of Social Sciences

Student Participant Information Sheet

My name is Didar Zhakanbayev. I am a postgraduate researcher at the university of Glasgow. I am the main researcher working on this project about gifted students' experiences in Higher Education in Kazakhstan.

PhD thesis title:
The role of Higher Education in developing Academically Gifted Students as identified by gifted schools in Kazakhstan.

For participants:
You are being invited to take part in a research study. Before you decide to take part, it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully and discuss it with others if you wish. Ask the researcher if there is anything that is not clear or if you would like more information. Take some time to decide whether you wish to take part.

Thank you for reading this.

The purpose of the study:
The purpose of the study is to explore how one Higher Education Institution supports Academically Gifted Students, namely graduates from NIS and BIL schools, in a university setting. The participation in this study is voluntary, and participation will entail a 40–50-minute focus group with 5 members. In the focus group, 5 students will be involved in a discussion, where everybody will have their chance to share their experience, while the researcher will be moderating the discussion with questions. The researcher will not take active participation in the discussion.
Apart from focus group there will be another 40-50 min individual interview with two selected participants within the focus group members, provided that they give a separate consent for the interview. The individual interview will be arranged with selected participants for a later time. Both focus group and interview will be held online via Zoom/MS Teams.
The issues covered in the focus group and interviews will be on pedagogical approaches designed for AGS, leadership development of AGS in Higher Education, and wellbeing support provided by HEI for AGS.
The participant's personal details will be kept confidential and will be stored in a secure drive. Only the researcher and supervisors will have access to this secure drive. During the interview, the participants will be addressed by their names to avoid confusion in communication. After the interview, the data will be transcribed in a document. In this document names of the participants will be changed to pseudonyms to ensure confidentiality. All data will be kept in a secure Microsoft One Drive storage provided by the University of Glasgow. After the successful completion of the project personal data will permanently be deleted. If there are printed documents with personal data, they will also be shredded.

Appendix E. University Documents Analysed

• ACADEMIC POLICY OF THE UNIVERISTY, 2024
• REGULATIONS ON THE PROGRAMME ACADEMIC MOBILITY OF THE UNIVERSITY, 2020
• ADMISSIONS POLICY OF THE UNIVERSITY, 2025
• ASSESSMENT POLICY OF THE UNIVERSITY, 2025
• REGULATIONS OF STRUCTURAL DIVISION OF THE INSTITUTION EXTENSION SCHOOL CENTER FOR ADVANCED TRAINING AND SKILLS DEVELOPMENT, 2025
• POLICY FOR TEACHING THE PROGRAMME OF ADDITIONAL EDUCATION (MINOR) IN THE UNIVERSITY, 2025
• REASONABLE ADJUSTMENT FOR STUDENTS WITH DISABILITY AND SPECIAL LEARNING NEEDS POLICY OF THE UNIVERSITY, 2024
• REGULATIONS ON THE PREPARATION AND EXECUTION OF THE SYLLABUS AT THE UNIVERSITY, 2022
• POLICY OF THE UNIVERSITY ON THE PROGRAMME “ZHAS MAMAN”, 2024
• REGULATION ON REMUNERATION OF EMPLOYEES OF THE UNIVERSITY, 2025
• REGULATION OF THE STRUCTURAL UNIT: DEPARTMENT OF SOCIAL AFFAIRS, 2020
• REGULATION ON TRAINING AND PROFESSIONAL DEVELOPMENT OF THE EMPLOYEES AT THE UNIVERSITY, 2021

• GUIDELINES OF THE ADVISORY SERVICE AT THE UNIVERSITY, 2021
• EQUALITY, DIVERSITY AND INCLUSIVITY POLICY AT THE UNIVERSITY, 2022
• REGULATION ON SCHOLARSHIP AND GRANT PROGRAMS FOR STUNDENTS, 2023
• REGULATION ON STUDENT SELF-GOVERNMENT AT THE UNIVERSITY, 2019