The Influence of Returned PhD Graduates and Intellectual Emigrants on the Internationalisation of Kazakh Higher Education: Implication, Challenges, and Suggestions

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Submitted in fulfilment of the requirements of the Degree of Doctor of Philosophy (PhD)

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January 2023

Abstract

Kazakh higher education institutions transformed from the Soviet education system to one modelled on European systems in 2010 and initiated programmes with English Language Instruction at certain state and private universities as part of an internationalisation process. However, there are still insufficient faculty numbers with the required levels of English competency. This is one of Kazakhstan's main obstacles to internationalisation at the institutional level. The Bolashak International Programme is one way the government has been attempting to address this obstacle for the last three decades since its early independence. The question arises whether the work done over thirty years (Bolashak) benefits the country in terms of improving the quality of Kazakh universities under the present internationalisation policy.

Moreover, some less developed nations have experienced unforeseen negative consequences of international academic mobility (Knight, 2012), and Kazakhstan is not an exception with more than half of those who emigrated from the country being educated to degree level (intellectual emigrants). This is likely to adversely impact the government's ambition to be in thirty economically and technologically highly developed countries with a high level of well-being and human potential of the population ("Resolution Of The Government Of Kazakhstan", 2013). However, what is still unclear is what provokes PhD graduates who have returned to emigrate and whether they consider external long-term academic mobility as part of a *deliberate strategy* (Tremblay, 2005:196) to emigrate.

Empirically, this study concentrates on understanding the issue of the outflow of intellectual emigrants (brain drain) and how to productively utilise the new knowledge of the returned graduates (brain gain) and also of intellectual emigrants (brain circulation). This thesis sets three research objectives: one of which is to explore PhD graduates' career experiences upon returning to Kazakhstan. Exploring their aspirations to emigrate or not is the second objective; while objective three is to explore Kazakh university managers' perspectives and policies towards internationalisation. To be specific regarding the latter, the study focuses on universities' internationalisation strategy and whether university managers are utilising intellectual emigrants' knowledge for internationalisation.

To achieve these objectives, the research poses three main and three sub-research questions. This thesis, first, reviews the failure of some nations in convincing or encouraging their graduates to return. It also considers how certain developing nations

strategically attempt to turn brain drain into brain gain and develop brain circulation at the institutional and state levels. This study utilises an explanatory sequential mixed-method approach (Creswell and Creswell, 2018) to achieve the abovementioned objectives. First, as a supplemental data gathering technique, the survey focused on returned graduates' general background, their motivation to study abroad and to return, and their emigration aspirations. The sample size of the survey respondents was 123 individuals with different foreign education levels and experiences. Second, the qualitative part involved 21 individuals from three different groups. They are university managers (4), returned PhD graduates (8), and intellectual emigrants (9). Semi-structured interviews were applied as the main data-gathering method. A hybrid approach (Fereday and Muir-Cochrane, 2006) was applied to analyse the qualitative data from interviews and open-ended responses from the survey.

This investigation revealed that the universities (mostly regional ones) struggle to attract returned PhD graduates due to limited financial, knowledge, and infrastructural resources. Moreover, the graduates face injustice when applying for a job or while working and experience limited opportunities for further upskilling in their fields. They may also feel unappreciated and insecure due to their religious and gender differences. These obstacles play a role in the graduates' decisions not only to avoid working at Kazakh universities but also to leave the country. In addition to these push factors, factors such as having foreign work experience, better climate and working conditions and a better future for their children lured those who remained in and emigrated to the country of study.

Unexpectedly, although Bolashak is considered vital in brain gain policy, it fails to promote brain circulation practices by obliging the graduates to locate in Kazakhstan for five years (three years in rural regions). This obligation fails to assist the graduates to visit labs and research fields of top universities to co-research in their specific area and is likely to decrease scholars' research competencies and collaborations. Furthermore, interviews with university managers and intellectual emigrants revealed that the former have limited ideas and experience in circulating knowledge through the latter who established themselves professionally abroad. It was also clear that intellectual emigrant participants are open to collaborating with scholars in Kazakhstan in their specific fields if there are offers from Kazakh universities.

Considering these findings, this research aims to make four main contributions. First, this research proposes that higher education institutions develop more effective strategies that facilitate collaborations between local faculty, returned PhD graduates, and intellectual

emigrants. It may assist in decreasing the gap between local and international researchers in terms of English language competency, research methodology, and developing a lifelong learning mindset. Second, this draws attention to how Bolashak's contract policy can be disadvantageous in terms of circulating knowledge between local and international scholars. Instead, the findings of this study suggest that Bolashak's strict regulations established in the early 90s should be reconsidered according to the current demand of research trends because, in an economically and scholarly integrated global world, it is vital that scholars can be mobile whenever it is necessary for the purpose of research development. It further suggests that local universities provide fair competition amongst local and returned graduates and equal salaries for returned graduates and foreign scholars. This equality may benefit brain gain successfully and avoid future brain drain. Lastly, from the methodological perspective, this research can be an initial substantial study in the Kazakhstan context that involves three different groups of participants by applying an explanatory sequential mixed-method research design.

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Acknowledgement

Many people positively influenced me during my PhD journey, and I would like to thank them all.

In the first place, I am fortunate to have my supervisors, Dr Muir Houston and Professor Kristinn Hermannsson to whom I would like to express my deepest and ineffable gratitude for their priceless guidance and continuous support during my academic journey. Their invaluable feedback and instructions have been critically important to alleviate possible serious mistakes and research limitations experienced during my study. I appreciate their support, kindness, and guidance in my research.

Many thanks to the School of Education who organised various workshops and seminars that expanded my horizons during my study at the University of Glasgow.

Thanks should also go to the IT department and International Student Support Team that were helpful at any time I needed their assistance. I acknowledge their hard work and immediate responses.

I am also grateful for my participants who sacrificed their time to provide me with valuable data.

Last but not least, I would like to thank my parents, wife, children, and relatives who unconditionally and continuously supported and cheered me during my research marathon.

Author's declaration

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

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1 Introduction

This research explores the impact of returned PhD graduates and intellectual emigrants on the internationalisation of Kazakh higher education, their challenges, and their emigration aspiration. This is achieved through collecting and analysing data from questionnaires and semi-structured interviews in an explanatory sequential mixed methods research design. Survey responses and interview data were obtained from a mixed group of former postgraduate students, whereas only qualitative data were obtained from key informants in the higher education sector and intellectual emigrants. To start the exploration, it is important to familiarise oneself with a concise historical overview of Kazakhstan.

1.1 Brief History of Kazakhstan

In the course of examining the Kazakhs' historical and ethnographic development, Laumulin (2019) notes that realising that being an ally with the Russian Empire would save the Kazakh nation from enemies, including the Kalmyks and Dzungarians, Kazakh Khans sent emissaries to the Russian Empire to establish peaceful partnership relations with them and create a counter-military alliance against mutual enemies. This period, between the end of the seventeenth and early eighteenth centuries, was perhaps the high point of the economy of the Russian Empire (Laumulin, 2019). This period is also considered an initial step for the Kazakhs' transition from a nomadic to a sedentary nation. Nomadism is the relationship of the nomadic system with nature and the creation of a system of high-level ecological and economic relations between people, animals, and wildlife based on the nomadic economy (Laumulin, 2019; Bridges and Sagintayeva, 2014). So, Kazakhs went through colonialist policies enforced by the Empire which resulted in the exploitation of farming lands and animals. In this period, Kazakh territory was transformed into an area that produced livestock, agriculture, and heavy manufacturing for the Russian Empire (Bridges and Sagintayeva, 2014). Seeking an alliance to establish partnership affairs and safeguard the nation's territory led the Kazakhs to become colonised.

Later, in 1920, Kazakhstan was established as an autonomous Republic in the interior of the Russian Federation and developed as the Kazakh Soviet Socialistic Republic of the Soviet Union (KSSR) in 1936 (Toimbek, 2021). During these periods, the Bolsheviks' economic and ideological policy of collectivism further inflamed the Kazakhs' anger because collectivisation works led to the destruction of the nomadic farm. Mandatory change to a sedentary lifestyle in the 1930s caused a mass famine in the Kazakh nation. As a result, those who could not endure further escaped the country to China and other Central

Asian territories. Between 1931 and 1934, approximately one and a half million Kazakhs perished from starvation, more than 40% of the Kazakh nation at that time (Bridges and Sagintayeva, 2014; Laumulin, 2019; Toimbek, 2021).

Cameron (2018, p. 2) has argued that Kazakhs were converted into a marginal population in their own territory not only by organised famine but also by the population policy of the Soviet Union that brought many immigrants from various nations into the Kazakh SSR. For instance, when examining the policies pursued by the Soviet authorities in the southern and northern segments of the Aral Sea region, Pianciola (2020) notes that between the years 1930 and 1933, there was a significant reduction of approximately 75 per cent in the rural population of the district (Pianciola, 2020). Furthermore, the involuntary resettlement policy forced many nations including Greeks, Russians, Germans, and Jews to settle in Kazakh SSR (Rahmonova-Schwarz, 2010). This policy contributed to Kazakh's minority position in their own territory until 1989 (Cameron, 2018).

According to Ahn et al. (2018), the development of higher education in the Kazakh SSR was an integral part of the broader Soviet massification of education project, which focused on training local specialists in the 1920s. Before this period, no higher education institutions existed in present-day Kazakhstan. However, during the 1920s and 1930s, several higher education institutions were established, including institutions in medicine, agriculture, and livestock. These institutions played an important role in contributing to the expansion of pedagogical institutes. The primary aims of higher education in the Kazakh SSR were to produce specialists supporting the Soviet objectives, including universal literacy, adherence to party ideology, and contributing to territorial industrial development. However, uniform Russian language instruction in most Soviet higher education institutions posed challenges for native nationalities, making it difficult for them to enrol. For instance, Kazakhstani secondary school graduates faced difficulties in enrolling in higher education institutions within Kazakhstan due to the requirement of passing an entrance exam in the Russian language and literature (Bilinsky, 1968 cited in Azimbayeva, 2017, p.6). This situation led to the Kazakh youth becoming marginalised in their own territory and deprived of accessing higher education opportunities.

1.1.1 Independent Kazakhstan

Kazakhstan obtained its independence on December 16, 1991, after the collapse of the Soviet Union. It is a landlocked nation and shares its borders with Russia, China, Uzbekistan, and Kyrgyzstan; and, has significant oil and gas resources. Currently,

Kazakhstan features in the major 10 states in oil and gas reserves. The oil industry plays a significant role in the country's economic development (Kaiser and Pulsipher, 2006); and, has responsibility for a minimum of one-half of the GDP of Kazakhstan (Agrawal, 2008). Although many were delighted with independence in its early stage, many were disappointed after the dust settled. The collapse of the USSR destroyed the heavy industry sector upon which much of Kazakhstan's economy was dependent.

Consequently, the government could not provide salaries, and there was a lack of supplies available in the regions. Big cities suffered from having neither heating nor petrol. The volume of unemployment and scarcity of all things made it harsher than under the USSR. In addition, the education system deteriorated catastrophically through a lack of funding even though the Kazakh Academy was one of the main participators among the other Soviet nations in improving science in the Soviet Union by displaying strong institutionalised links not only limited to Leningrad and Moscow but also with Novosibirsk, Tomsk, and Omsk (Siever, 2003). In the 1990s, Kazakhstan faced huge problems specifically in the field of higher education to develop a modern system of national science (Jumakulov *et al.*, 2019).

Overall, the national economy declined severely in terms of GDP. For example, manufacturing decreased in all areas, and inflation of 2500% escalated financial instability (Robbins, 2008; Toimbek, 2021). During early independence, the Russian government controlled the oil pipelines because the leading factories in two cities, Pavlodar and Shymkent, were connected by a conduit to the Siberian oilfield (Pomfret, 2005). However, the president, Nursultan Nazarbayev, kept the balance between the Russian government and the public's feelings about the dominance of the Slavic residents in Kazakhstan. Tactically, the government tried to minimise the unfavourable pressure of the Russian government on the country's independence. This period is considered Kazakhstan's first stage in its formation; it lasted for four years between 1991 and 1995 (Toimbek, 2021).

In the next stage, 1995-2000, Kazakhstan became the wealthiest country amongst Central Asian neighbours due to globally high oil prices and production in the late twentieth century. Therefore, the nation had the prospect of trying to repair socio-governmental oversights with no strong democratic organisations or traditions (Toimbek, 2021). During this period, mass privatisation took place to diversify the economy, but a corrupt bureaucracy, limited constitutional rights for property, weak institutions, and an absence of competition deterred private business development (Pomfret, 2005).

Toimbek (2021) notes that Kazakhstan experienced a significant increase in GDP (of around 78%) and in direct foreign investment flows during the subsequent stage. For instance, the country experienced a sharp increase in FDI from 0.401% to 5.431% of GDP between 1992 and 1993, and it reached 13.013% in 2004 despite some fluctuations since independence (World Bank, 2020). The increase in GDP funded all national expenditures, including education (Bridges and Sagintayeva, 2014). As a result, 2015 evidenced the increase in regular monthly incomes from 101 USD to 565 USD, pension benefits increased fourfold (Toimbek, 2021:4), and poverty decreased from 39% to approximately 20% between 1998 and 2004.

The country still focuses on decreasing poverty as its elimination plays an indispensable role to provide a good life to all residents with education playing a key role. Although this provision may be considered irrelevant to Kazakhstan's current enrolment condition for secondary education as almost 95% of children are enrolled in the secondary level (Agrawal, 2008), many adults still suffer from poor qualifications and low skill levels which are another legacy of the Soviet era. Moreover, the challenges encountered in the re-establishment of education in the Kazakh language can be attributed, in part, to legacies from the Soviet era and, in part, to post-Soviet circumstances. Despite the designation of Kazakh as the sole 'state language' of Kazakhstan, only a small percentage of the population, approximately 10-15%, possessed the ability to read and write in Kazakh. Following independence, the proportion of classes conducted in the Kazakh language increased from 34.1% to 56% between 1991 and 2004. However, delivering high-quality education in Kazakh faced challenges stemming from limited vocabulary, inadequate textbooks, and a shortage of trained faculty across various subject areas (Fierman, 2006, p.101; Ahn *et al.*, 2018). The condition and barriers to the English language were obvious when access to the mother tongue was limited.

However, irrespective of the government's effort to improve economic development, it was predicted by the World Bank (2019 cited in Toimbek, 2021:4) that the country's economy will continue to decline unless it implements *quality productivity-friendly economic diversification*. Also, Kazakhstan is recommended to shift to a knowledge-based economy that improves national education quality from primary to higher education, works at eliminating prevalent bribery, and develops skills advancement policies and programmes (Toimbek, 2021).

1.1.2 Brain Drain

Amidst Kazakhstan's pursuit of independence and development, the phenomenon of brain drain emerges as a significant concern, impeding the country's progress. The academic literature normally refers to brain drain as the movement of highly educated and skilled personnel from developing to developed nations to gain more favourable prospects (Giannoccolo, 2009; Beine *et al.,* 2001; Ansah, 2002). In the term, *brain* refers to any skills and competencies that are prospective resources, whereas *drain* suggests that the occurrence or frequency of leaving a home country is at a rate higher than regular or anticipated (Bushnell and Choy, 2001 cited in Giannoccolo, 2009:2). Additionally, according to Beine *et al*. (2001) highly *skilled* refers to people with tertiary education. Suffice it to say, as I shall explain in the paragraphs below, there are a number of indicators which support the notion that Kazakhstan has exhibited brain drain.

Having analysed the historical trends in international migration of the population of Kazakhstan in the post-Soviet period in the aspects of causes and factors of migration and the impact of the global economic crisis on migration, Sadovskaya (2009) emphasised four main periods. The first period falls between 1987 and 1991 which is the point of collapse of the USSR. During this period, around 162 thousand people left Kazakhstan. The second period covers 1992-1998, the time of large-scale and spontaneous movements between the CIS countries and beyond the CIS borders, caused by historical geopolitical shifts and systemic economic crisis due to the collapse of the USSR and Kazakhstan's transition to a sovereign existence and a market economy.

Furthermore, the emergence of unregulated labour immigration from Central Asian nations and macroeconomic stabilisation in Kazakhstan corresponds to the third period between 1999-2003. Finally, the period between 2004 and 2008 indicates a positive migration balance due to an increase in the number of repatriates, foreign labour, and relatively stable economic growth. Sadovskaya's (Ibid) analysis of the professional composition of specialists with higher education who left Kazakhstan shows that out of 184,632 people who left the country in 1996-2004, 25.8% had a technical education, 20.6% – pedagogical, 10.4% - medical, 10% - economic, 6.5% - architectural and construction, 5.2% - agricultural, 2.4% - legal, 19.1% - other specialities. Emigrants tended to choose the USA, Canada, Israel, and Germany. Due to the issue of brain drain during the 2000s, Kazakhstan experienced a shortage of qualified personnel in sectors such as oil production, medicine, and secondary and higher education. As a result, continuity in the higher education system has been largely lost, which has led to a decrease in its quality.

All these facts show historical trends of brain drain issues in Kazakhstan. However, the recent emigration concern cannot be ignored as its negative migration balance has increased. According to the Bureau of National Statistics of the Agency for Strategic Planning and Reforms[1] of the Republic of Kazakhstan, external migration conditions do not seem promising. The results for five years (**Error! Reference source not found.**) show a constant negative balance of the migration process in that the number of emigrants kept increasing between 2016 and 2019. For instance, the column for 2016 shows a migration balance of -21,145, whereas its number increased to -32,970 in 2019. It can be assumed that a negative migration balance of -17,718 is due to the global COVID-19 situation that declined migration around the world overall. In general, Kazakhstan lost around 189 thousand citizens during these five years, and the majority are 25-49 years old.

Table 1-1 External Migration

External Migration

	2016	2017	2018	2019	2020
Immigrants	13,755	15,595	12,747	12,255	11,370
Emigrants	34,900	37,725	41,868	45,225	29,088
Migration balance	-21,145	-22,130	-29,121	-32,970	-17,718

In his address to the Deputy Prime Minister, Yeraly Tugzhanov, Mazhilis deputy Alexander Milyutiv (Outflow of Young People from Kazakhstan is Close to Critical – MP, 2021) notes that the share of highly qualified specialists in the general statistics of emigrants was 50.6% in 2019. In contrast, its percentage increased to 54.3% despite the pandemic and travel restrictions. The most compelling reason for the brain drain issue, according to the group of deputies, is the fact that over half of Kazakhstani university graduates cannot find at least some kind of job, not to mention a job in their speciality, for the reason that supply and demand in the labour market are not systematically monitored in the country. As a result, even graduates who have studied by the Bolashak programme, who might be expected to be more in demand, cannot find a job in their speciality; since education in Kazakh universities, unlike foreign ones, is insufficiently focused on

1 **https://stat.gov.kz/edition/publication/booklet**

developing practical skills that allow graduates to be adequately prepared to enter the workforce upon graduation.

Similarly, according to World Bank statistics (2019), the migration of qualified personnel from Kazakhstan raises problems of brain drain with around forty per cent of Kazakhstani with higher education resident overseas, and such constant examples are considered as a symptom instead of the cause of the core problems. The report noted that developing institutions and governance in the country can help to solve the core triggers of constant emigration in the long run. Strategies intended to keep educated personnel include creating jobs, actively encouraging the private sector, and investing in higher education. Furthermore, maintaining linkage with emigrants established abroad is crucial as those who remain in contact are highly likely to invest in their home country and potentially return. The report indicates that policies restricting benefits overseas are less effective to prevent emigration than boosting incentive schemes for staying in a home country.

In an attempt to identify the migratory mood of Bolashak graduates based on regression analysis, Bokayev *et al.* (2020) claim that the main influencing factors for 23- and 28-year-old Bolashakers' emigration decisions are salaries and living standards. In contrast, those who are older than this age group are influenced to remain in Kazakhstan by family connections and traditions. Studying this type of issue is essential, as evidenced by the statistics in the previous paragraphs. However, their research raises several issues. For instance, by not providing information on what regression analysis they have used, they have denied readers the opportunity to look and see whether their study meets the requirements of regression analyses. As it is, their paper fails to provide enough information about the survey and any regression analysis except the phrase *the regression analysis has revealed* (p.32). So, it is unclear what statistical tools they used and whether all data assumptions were met.

Another issue with their research is that the authors mention Survey Monkey as their online survey tool but do not provide information on item composition. Furthermore, there seem to be errors in presenting results for those who want to emigrate to other countries and those who cannot emigrate because of personal circumstances. By neglecting to provide sufficient information on their tools, they make readers doubt whether the research is reliable and valid.

Moreover, they conclude their study by emphasising family connections and the participants' traditions as the most influential factors for graduates to remain in Kazakhstan

without providing any evidence for how they identified those factors. Furthermore, the study seems to fail in validity because the authors aimed to analyse the migratory mood of graduates whilst involving both graduates and current Bolashak students. It would be appropriate to divide the participants into two groups to obtain valid evidence separately for each group. Finally, the authors imply that the government should focus on patriotic education and the value of family amongst the younger generation because young Bolashakers return due to the grant conditions. Their findings imply that the young generation fails to be patriotic without testing whether their sampling is eligible to generalise to the whole young population of Kazakhstan. It could be argued that this thesis attempts to overcome some of the shortcomings identified above through the adoption of a rigorous mixed methods approach.

1.2 Research Problem and Setting

Academic mobility is an increasingly important component of the internationalisation of higher education (OECD, 2021; Knight, 2013; The Digital International Student Survey[2] (DISS), 2019). This may have positive and negative consequences for the origin country and its higher education system. However, *a priori*, the extent and balance of these consequences are unclear. A key influence is whether mobile students return to their country of origin or emigrate, and a key question is therefore, whether academic mobility influences migration aspirations.

The Kazakh government has been sending its citizens to study abroad based on the Bolashak Scholarship since 1993 (see Section 2.2.1.2). Through the Bolashak international programme, thousands of Kazakh students have obtained their post-graduate degrees from top foreign universities. The number of Bolashak graduates and those who fulfilled their contracts is increasing annually. For instance, so far, over fifteen thousand Kazakh citizens (15,519) have been awarded the scholarship, and over eight thousand (8,279) graduates have fulfilled their contractual obligations (Bolashak in Numbers, n.d.). (see Section Bolashak 2.2.1.2)

Previous research provides some indications that the present policy could be facing challenges that are urgent to understand. For example, one in ten students decides to study abroad due to the degradation of higher education quality as one of the factors affecting

[2] The Digital International Student Survey (DSS), 2019

their decisions (Osipova, 2021). It draws attention to whether the government effectively approaches brain gain through Bolashak to increase higher education quality.

Moreover, emigration aspirations can be evidenced not only amongst young students but also amongst specialists (see Section 1.1.2) which may result in the under-development of human capital in the country. As evidenced by the literature (Section 1.1.2) in the context of Kazakhstan, research conducted to explore the long-term effect of the programme is limited, particularly on graduates' emigration aspirations after their graduation. From a policy perspective, intellectual emigrants' outflow migration is highly likely to negatively affect the government's political strategy to become amongst the thirty most developed nations globally[3]. Here, the researcher defines intellectual emigrants as those with higher education degrees who emigrated from Kazakhstan due to various reasons and established themselves abroad as scholars or specialists in their specific fields.

Furthermore, although statistical data show (see Section 1.1.2) an increased negative migration balance in Kazakhstan, and most of those who emigrated in 2019 are specialised in technology (over 7.1 thousand), economics (3.7 thousand), pedagogy (2.3 thousand), and also included many lawyers, healthcare workers, and architects (Osipova, 2021), the research to date has tended to focus on intellectual emigrants in general rather than on specific groups of people. What is not yet clear is whether PhD graduates' external long-term academic mobility experience has impacted their emigration aspiration; in other words, what causes PhD graduates to emigrate is subject to speculation as influential factors for intellectual emigrants' aspirations to emigrate mentioned by Osipova (*Ibid.*) are limited in numbers and not specific in terms of groups of participants.

In summary, the brain drain issue has remained one of Kazakhstan's significant challenges since its independence. Therefore, it is important to explore what obstacles PhD returned graduates have after returning, what their plans are after fulfilling the contract condition with Bolashak[4], and whether they have aspirations to emigrate. If they have emigration plans, it would be worth exploring whether their international education affected their emigration aspiration or whether local factors weigh more in their decisions to emigrate.

[3] Resolution of the Government of the Republic of Kazakhstan dated December 23, 2013 No. 1385 https://adilet.zan.kz/kaz/docs/P1300001385

[4] Prior to study abroad by Bolashak, graduates sign a contract to work in Kazakhstan for a specific time period upon graduation

1.3 Research Significance

The findings of this research are significant because this work generates fresh insight into government attempts to achieve brain gain by developing human capital through the Bolashak programme. That is to say, following the definition of West (2010) to bring novel skills to a country and exploit entrepreneurial activities that exist throughout the world to enhance the country's competitive capacity (for a further discussion of this concept see Section 3.1). Furthermore, examining the thirty-year-old policy of the Bolashak programme from an internationalisation perspective may provide important findings regarding knowledge exchange between local institutions and prestigious higher education institutions abroad.

From a higher education perspective, a strength of this study is that it explores the practice of internationalisation from the perspectives of three different groups: graduates, intellectual emigrants, and key informants in the higher education system. Triangulated findings from these different stakeholder groups can provide detailed recommendations to develop higher education quality and internationalisation policy and practice not only in the context of Kazakhstan but also in neighbouring and other developing countries. In addition, the findings of this study may provide guidance to avoid misconceptions in the process of internationalisation of higher education (see Sub-section 2.2.2).

1.4 Research Aims

The aims of this study are first, to explore returned graduates' general experiences ranging from their motivations to study abroad to their expectations and experiences of career progression upon return. It also aims to explore their aspirations to emigrate, and whether their external academic mobility experience affected these aspirations. Finally, this study attempts to recommend pragmatic solutions to overcome brain drain issues and increase the quality and effectiveness of internationalisation in higher education by reconsidering the policies of the Bolashak programme through engaging intellectual emigrants in the process. In achieving these aims, this thesis implemented an explanatory mixed-method design in which the quantitative element plays a supplementary role. A detailed discussion can be found in Methodology (Chapter 4).

1.5 Research Objectives

Three main objectives cascade from the research aims. The first of these is to explore PhD graduates' experiences after returning to their country of origin. This holds the potential to

identify issues to be addressed in academia in order to improve the quality of the internationalisation of higher education in Kazakhstan, eliminate barriers to the graduates' possible impact on higher education and investigate whether they contribute to brain circulation between Kazakhstan and the overseas higher education institutions from which they graduated.

The second specific objective is to explore PhD graduates' aspirations to emigrate after obtaining their foreign degrees. Understanding these aspirations may provide insights to ameliorate the potential emigration of PhD graduates. It may be that studying abroad is part of an intentional plan to emigrate for some students and start their professional careers abroad (Tremblay, 2005).

A third objective is to explore universities' strategies for internationalisation. The importance of this objective is that it may reveal whether university managers in Kazakhstan have developed effective strategies for internationalisation. In addition, this may shed light on the possible role that intellectual emigrants may play in assisting in internationalisation at the institutional level. Regarding this issue, Jonkers and Tijssen's (2008) article is instructive. They (*Ibid.*) emphasise the impact of intellectual emigrants on Chinese research development through co-publication and cooperation with local Chinese scholars. Another example of brain circulation can be seen in Saxenian's (2005) work, where the author emphasises that nations that have intensely invested in tertiary education and nations with economic and political stability can gain from brain circulation.

1.6 Research Questions

The researcher generated specific research questions to achieve the above research objectives. For instance, to achieve objective one, the researcher asks the following specific question:

RQ1. Why did the graduates choose to study abroad?

RQ1.1. What are the obstacles and/or benefits PhD graduates have in terms of their career progression on return?

As evidenced in Chapter 3, certain returned PhD graduates may fail to impact higher education quality due to different factors ranging from limited career progression to low salary. As such, this RQ may assist the researcher in exploring the factors that impede

Kazakh universities from improving their global rankings through an internationalisation strategy.

Next, to achieve the second objective, the researcher follows the specific research questions which are:

RQ2. How do graduates envisage their future careers after fulfilling their responsibility under their Bolashak contract?

RQ2.1. What were the reasons for graduates, specifically PhDs, to emigrate?

Causal factors leading to brain drain in Kazakhstan remain speculative and limited in analytical rigour (Section 1.1.2). Therefore, these questions may offer new insights into the reasons that affect intellectual emigrants' emigration decisions rather than dealing with symptoms of brain drain issues.

The third research objective is to be achieved by addressing the following two research questions:

RQ.3. Whether intellectual emigrants are willing to engage in knowledge circulation with scholars in Kazakhstan?

RQ.3.1 What are the obstacles for intellectual emigrants to engage in knowledge circulation activities with Kazakh higher education institutions?

In an era of internationalisation, expecting immediate returns from PhD graduates returning from abroad may not be enough. Rather, involving intellectual emigrants, who are already established in developed countries, in exchanging knowledge would possibly increase the quality of internationalisation in a shorter time period. To that aim, these RQs may provide Kazakh universities with a new approach to knowledge circulation and networking activities with top universities abroad.

1.7 Description of the Research Design

In the hope of obtaining more objective and detailed results from the returned graduates who obtained their degrees from foreign universities, this study followed an explanatory sequential mixed-method research design (Creswell and Clark, 2017; Creswell and

Creswell, 2018). First, the researcher explored the graduates' general background, their motivation to study abroad and to return, and their future plans quantitatively. Then, to gain a more detailed understanding of the issues of brain drain and internationalisation processes, the researcher conducted semi-structured interviews virtually with eight PhD graduates that had returned to Kazakhstan.

To gain a further understanding of the internationalisation process as a context that shapes graduate decision-making, the researcher conducted semi-structured interviews virtually with five key informants in the higher education sector from different regional and urban universities in Kazakhstan. It enabled the researcher to explore the current internationalisation process in different Kazakh higher education institutions. It also enables the researcher to explore the graduates and intellectual emigrants' impact on the internationalisation process from a different perspective. Furthermore, nine intellectual emigrants, who had already settled in different countries, were interviewed virtually to explore their motivation to emigrate and to circulate knowledge between Kazakh and foreign universities.

Although the thesis included both approaches, the qualitative part played a major role in analysing the findings as it involved the participants of three different groups; it has been considered dominant. In contrast, the quantitative approach played a supplementary role by focusing only on the graduates. It represents data generated from graduate participants, whilst the data from university managers and intellectual emigrants were gathered only qualitatively. So, to answer the research questions, the researcher used different data sets from different groups of participants. The quantitative data obtained were analysed using SPSS software, whereas the researcher took a hybrid approach (Fereday and Muir-Cochrane, 2006) to thematically analyse qualitative data obtained through snowball sampling.

1.8 Thesis Outline

The remainder of this thesis takes the form of seven chapters. Chapter **Error! Reference source not found.** reviews the internationalisation practice and certain misconceptions of it. Furthermore, the current body of literature explores the definitions, types, and statistics about outbound and inbound academic mobility, as well as the motivational factors that contribute to the decision to pursue studies abroad. Next, Chapter **Error! Reference source not found.** reviews the effects of academic mobility, and its positive and negative

manifestations such as brain gain, brain drain, and brain circulation concepts without being limited to the internationalisation process of higher education and its practical application in different contexts.

Chapter 4 begins by laying out the philosophical position of the research and looks at why the researcher accepted the pragmatism worldview. This chapter also discusses the adopted methodological approach in detail, including research tools, participants, and data analysis approaches. It is followed by findings, in Chapter 5. It is divided into two sub-sections: quantitative and qualitative which analyses the survey data and interviews conducted virtually in sequential order.

Chapter 6 discusses the findings of the research, focusing on three key areas that are the graduates' motivation and experiences, internationalisation practice in the Kazakhstan context, and brain circulation and its barriers. Some suggestions are offered to university managers, returned graduates, and intellectual emigrants in terms of effective internationalisation processes and brain gain/circulation approaches. Finally, Chapter 7 concludes the thesis by noting the research limitations and offering further research ideas.

2 The Internationalisation of Higher Education

2.1 Introduction

As a lecturer, co-editor, and co-author of journals, books and articles on the internationalisation of higher education, de Wit (2011) argues based on his monograph that the internationalisation of higher education institutions has been a priority focus of governments, universities, and accreditation bodies for more than the past quarter of the century. However, as it gains global significance, actors in the internationalisation of higher education are inclined to develop it in accordance with their needs (de Wit, 2002). Consequently, it appears to result in misconceptions about internationalisation and failures in implementation (Knight, 2011; de Wit, 2011), although it is considered one of the standards of quality in higher institutions (Serpa et al., 2020) and seen as a process in constant evolution (de Wit, 2013). It has shifted from what might have been termed a *cooperative model* to a more marketized and commodified competitive paradigm (de Wit, 2011:242). As the number of higher education students is increasing, one must pay attention to the quality of higher education because there is a positive and statistically significant effect of higher education on the economic growth rate in certain developing countries (Gyimah-Brempong *et al.,* 2006).

Furthermore, various contextualised approaches exist to internationalise higher education at different levels, such as Bachelor's, Master's, and PhD levels. (De Wit, 2011). Immediately after its independence, Kazakhstan diligently reformed its tertiary education system by applying the practices of Western higher education, especially, in terms of internationalisation. This section of the study reviews a range of literature related to internationalisation and academic mobility in higher education. Specifically, it focuses on several approaches of the government towards internationalisation through diverse activities such as initiating the Bolashak scholarship (Section 2.2.1.2), joining the Bologna Process (Section 2.2.1.3), and opening the Nazarbayev University (a flagship university) (Section 2.2.1.4). It further focuses on the concept of external academic mobility, the forms it may take; and the motivation of students to study abroad. In the course of this, various definitions of internationalisation and academic mobility are considered as well as their application in practice in different countries.

2.2 The Internationalisation of Higher Education

The internationalisation of higher education can be considered one of the significant areas of interest within the field of education. However, current models of internationalisation have evolved from its manifestation at the beginning of the twentieth century; advancement in its process and players are examined to reconsider its goals and values (De Wit, 2017). The following section will demonstrate that the concept is approached in various ways, dependent upon the specific context of individual countries and universities.

There is a large volume of published studies on the internationalisation of higher education in different contexts and with different methodological approaches. In her book, based on the results of the *Australian Learning and Teaching Council National Teaching Fellowship,* Leask (2015) found that, in general, the internationalisation of higher education is understood by people in various ways, and different universities strive for it with different motivations again dependent upon their specific context. Variations in terms of internationalisation of higher education definitions (Arum and Water, 1992; Knight, 2004; Maringe and Gibbs, 2009; de Wit *et al.*, 2015) and in terms of understanding it (Yang, 2002; de Wit, 2013, 2017; Knight, 2015) all tend to offer support for the findings of Leask (2015).

In terms of the definition of internationalisation, one can note that Knight's (2004:11) definition gained wide acceptance in the field. Considering various definitions, Knight (2004:11) defines internationalisation as '*the process that integrates international, intercultural, and global dimensions into the purpose, functions or delivery of post-secondary education*'. The wide acceptance of her definition could be due to the fact that she articulates internationalisation as an ongoing process that helps enhance knowledge, ability, and excellence in students as a result of advanced schooling internationally and interculturally (Knight, 2017). International and intercultural dimensions have been considered crucial because of a general sense of connections among different countries (Knight, 2004; Beelen and Jones, 2015; Knight, 2017).

Alternatively, a decade later, de Wit *et al.* (2015:283) note that the concept of internationalisation of higher education has developed for more than 35 years, starting from the beginning of joint study programmes in Europe. After studying internationalisation from conceptual, contextual, trend, and national political perspectives, de Wit et al. (2015:283) expanded Knight's definition, which is generally approved, as such:

internationalisation is *'the intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of post-secondary education, to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society.'*

This study follows both definitions due to their frequent application and widespread acceptance. Also, both definitions consider internationalisation as a process rather than a final goal.

Knight (2017) differentiates internationalisation from globalisation, noting that the circulation of views, finance, citizens, markets, value systems, and information worldwide is the focus of globalisation, whereas internationalisation underlines the interrelations between or among universities, countries, and organisations. Therefore, although the terms are closely associated, they are different (Yang, 2002; Knight, 2017) because the main principle of internationalisation is that different nations, universities, and states have different goals (p.15). Since the study focuses on the internationalisation of higher education, the concept of globalisation is beyond the consideration of the current study.

Furthermore, following postcolonial theory as the research framework, Sperduti (2017) equates the internationalisation process with Westernisation. She argues that the process developed to the degree that it westernises curricula and language of instruction at universities in non-English countries. This further spreads into scholarly publishing by English becoming the main language in research publishing (Sperduti, 2017; Di Bitetti and Ferraras, 2017). These are the modern indicators of colonisation according to Sperduti (2017:11).

Although Sperduti's (2017) argument suggests a cautious approach to internationalisation, it remains unclear to what degree internationalisation is attributed to Westernisation. In the context of Kazakhstan, one can surmise that English as the language of instruction in higher education and publishing in English could mitigate the influence of the Soviet colonialism in Kazakh universities because internationalisation in higher education can create a space for decolonisation by promoting challenging discussions from diverse perspectives due to the confluence of various cultures and languages (Fakunle et al., 2022). A thorough approach to internationalisation could introduce fresh perspectives, ideas, and practises from industrialised countries, even though internationalisation alone may not completely eradicate the influence of Soviet thought in a short time frame. This has the

potential to benefit Kazakh society by reducing and eliminating the vestiges of Soviet practices while also helping to diversify and enhance the curriculum and research programmes of Kazakh universities. Although one must be mindful of Sperduti's caution that Western influences should not be adopted uncritically.

Also, the association between westernisation and internationalisation does not necessarily lead to colonisation due to various international standards. For example, a survey by Yang (2002) that included 17 Guangzhou higher institutions shows that 47.46% of 59 university executives have no knowledge of what internationalisation means, whereas the responses of the rest differed significantly. Even though they admit that the overlap between Westernisation and internationalisation is high, most of them believe that the ongoing process of internationalisation will not result in assimilation into Western culture as international standards are used in the process. The phenomenon of internationalisation is therefore comprised of international trade agreements, legislations, institutions, and numerous global activities (Wysocka et al., 2022).

Regarding the Kazakhstan context, applying Guncherenok's (2000) questionnaire, Maudarbekova and Kashkinbayeva (2014) studied 126 students and researchers' knowledge about the internationalisation of the education process in two universities: Zhezkazgan Baikonurov University and Zhetysu State University. Having analysed the responses, they found that 61% of professors could describe the quintessence of internationalisation, whereas only 37% of students were aware of the process. However, among university staff, 39% did not prioritise internationalisation in education, and 21% of staff could not arrive at a conclusion. 31% of them indicated insufficient information about international collaboration as one of the main obstacles to internationalisation, even though according to Stiasny and Gore (2013) the Kazakh Ministry of Education has agreements with 113 foreign countries around international collaboration. Also, how international relations departments at Kazakh universities perform their duties needs to be investigated as Maudarbekova and Kashkinbayeva (2014) note that limited information about international collaboration opportunities could be due to the unsatisfactory performance of foreign affairs departments at the universities and as such an administrative as much as an academic issue.

Historically, movement at the individual level was probably the initial phase in the internationalisation process because of the absence of constructive commitment from universities, and the Erasmus Programme seems to change the focus from the individual to institutional-level mobility, which is still one of the essential aspects of the process

(Wächter, 2003). Similarly, according to Knight (2012), there are two main pillars of internationalisation: *internationalisation at home* and *internationalisation abroad* (p.22). The former is believed to belong to the institutional level (Wächter, 2003) where university responsibilities play an important role in integrating international and intercultural activities into the student experience via campus-based and virtual learning (Knight, 2012). The latter comprises all types of cross-border studies beginning from the mobility of people to the mobility of policy (p.22).

Regarding the institutional level, from the literature, one can see that taking responsibility for internationalising themselves sometimes means that universities may take reductive approaches in their implementation (Knight, 2015; de Wit, 2013, 2017). It is probably due to the simplistic approaches of specialists responsible for international collaboration activities (Maudarbekova and Kashkinbayeva, 2014) and different ways of understanding internationalisation and so approaching it with different motivations (Leask, 2015). The latter will be discussed shortly regarding the institutional level in the following sub-section before moving to the individual level of internationalisation (academic mobility), which is the main focus of the thesis.

2.2.1 Internationalisation of Higher Education in Kazakhstan

During the Soviet Union, research has been institutionally isolated from teaching at universities. That way, universities were detached from the latest innovations, specifically in science and technology. As a result, they provided students with obsolete and outdated materials. There was a lack of English language skills among the faculty (Pak and Agbo, 2013 cited in Kuzhabekova and Ruby, 2018, p.268) and international sources of books, and the instruction was based merely on discourses often authored by the same academic delivering the lectures (Heyneman, 2010; Silova, 2009). There was only one foreign language that was needed for communication, and it was Russian. Therefore, learning a foreign language (English) was not intended to improve students' communication skills (Shafiyeva and Kennedy, 2010).

Additionally, continued reliance on post-Soviet Russian-language research publications, which are not effectively integrated into the global research community, and faculty members' limited proficiency in the English language both contribute to the poor research output (Kuzhabekova & Ruby, 2018). The legacy of this system required Central Asian countries, including Kazakhstan, to construct a new domestic science system after the Soviet Union collapsed, and Kazakhstan entered a new century with an inadequate

education sector and system (Jumakulov *et al.*, 2019). Furthermore, as a legacy of the Soviet Union, Kazakhstan universities have followed a centralised and state-run education structure (Sagintayeva and Kurakbayev, 2013), a standard issue for all five countries in Central Asia.

However, Nursultan Nazarbayev's 'Kazakhstan 2050 policy' strongly emphasised that higher education institutions should be oriented towards the modernisation and expected demands of the national economy; they should not be limited to only instructive or teaching functions, but they should generate and advance research and development activities (Nazarbayev, 2012). Afterwards, a *research university* model became a new trend where universities are immersed in training specialists rather than delivering research innovation (Sagintayeva and Kurakbayev, 2013:20).

For instance, to improve research quality in the technical field Satbayev University gain research university status in 2014[5], whereas Kazakh National Agrarian University became a National agrarian research university in 2020[6] to develop the agrarian domain. They are concerned with organising and implementing fundamental and applied scientific studies, scientific-technical, experimental-design works, and developing programmes that are approved by the Kazakhstan Government. Their principal objective is to integrate scientific and educational activities at all levels of higher education.[7] Moreover, Kazakhstan's higher education is currently oriented according to the Bologna Process and the European Higher Education Area (EHEA), which is one of the main reforms towards the internationalisation process. It is discussed in a later chapter. The second major reform is the Industrial and Innovative Development Policy enacted in 2015. This policy was developed due to challenges in higher education, such as obsolete training and research foundations and programmes incompatible with industry demands and diversification of the economy. The education section of this plan has emphasised internationalising postgraduate education to develop research capability in specific universities by designing brand-new postgraduate research curricula related to home manufacturing. (Jumakulov et el., 2019).

When developing internationally compatible training and research programmes and the overall quality of the internationalisation process in higher education, the thoughts that come to one's mind can be the role of PhD graduates with international degrees in its

[5] https://adilet.zan.kz/rus/docs/P1400001330

[6] https://www.kaznaru.edu.kz/page/about/?link=universitettin_missiiasy_179&lang=en

[7] State Program Of Education Development in the Republic of Kazakhstan for 2011-2020 | Planipolis (unesco.org)

implementation. Taking the challenge and given the low number of PhD graduates with international degrees into account, one might argue that it is necessary to explore the graduates' impacts on the implementation of the policies to improve the internationalisation process. If one weighs the ambitious plans of the Ministry of Education and Science to become a Central Asian educational hub and the low number of PhD graduates with international degrees, it might put doubt on the swift achievement of this goal.

The small number of PhD scholarships by Bolashak (see Section 2.2.1.2) may be one obstacle to increasing the quality of higher education institutions because it results in a deficit of scholars with Western experience. However, another issue is the low interest of returned PhD graduates in working at higher education institutions. For instance, Oralova (2012) argues that Bolashak alumni have significantly impacted Kazakhstan's human capital assets. Some graduates are currently in leading positions such as ministers, vice-ministers, and senior managers of significant businesses in different areas of the country's economy. This view is supported by Erdembekov *et al.* (2016), who write that the best PhD graduates who studied at foreign higher education institutions through the Bolashak scholarships usually choose to work in areas of business and management. However, he also argues that only a limited number of PhD graduates show interest in working in higher education. (Erdembekov *et al.,* 2016). The limited number of PhD graduates with international degrees and their low motivation to work in higher education can delay the internationalisation process and impacts the development of training and research programmes in general.

Oralova (2012) mentioned the importance of English for the internationalisation process (see Section 2.2.3). However, she did not specifically consider the benefits of PhD graduates on the internationalisation process of higher education after their return. Similarly, Erdembekov *et al.* (2016) fail to delve into the reasons why PhD graduates exhibit a lack of interest in working at higher education institutions. From a human capital theory perspective, Oralova's (2012) claim seems credible because a person's knowledge and ability increase their productive capacity, leading to advancement in their career (Bagdadli and Gianecchini, 2019). However, factors such as personal relationships with managers and mentors (Bagdadli and Gianecchini, 2019), job experience, and working hours (Russ-Eft et al., 2014) can also influence career advancement. For that reason, it may be an overstatement that the Bolashak scholarship programme alone can affect their career progression as ministers or top managers of organisations. Furthermore, exploring the PhD

graduates' career progression and their academic obstacles could explain why they are less motivated to remain in higher education.

2.2.1.1 Expenditure Overview on Higher Education

As mentioned in Section 1.1.1, Kazakhstan faced public expenditure challenges immediately after obtaining its independence. The government reduced the expenditure on higher education dramatically. For instance, spending was reduced from 0.3% of GDP to 0.04% between 1991 and 1992 respectively and made up only 0.32% in 2000 (Kusherbayev *et al.,* 2001 cited in Azimbayeva, 2017). This means that during this period, Kazakhstan could not stand up to comparison with countries such as Malaysia (2.8%), Thailand (0.8%), and China (0.8%), not to mention the average (1.7%) for OECD countries (Makridi *et al.*, 2007:67-68).

Interestingly, although GDP increased by 78% in the second stage of independence (mentioned in 2.2.1), expenditure on higher education remained low; 0.7% of GDP in 2015 according to Aryn and Issakova, (2018). Nevertheless, according to the data from the Committee on Statistics of the Ministry of National Economics of Kazakhstan (cited in Aulbekova, 2020), the share of education expenditure in GDP was still only 3.62% in 2019. The share of higher and postgraduate education spending is even less, with 0.34%, 0.33%, and 0.37% for 2017, 2018, and 2019, respectively.

This situation is also reflected in the salaries of teachers. For instance, during a meeting of the National Council of Public Trust, the President, Kassym-Jomart Tokayev, issued an order to increase the remuneration of university faculty. As a result of this directive, the salaries of university lecturers experienced a 20% raise in September 2019, followed by another 20% increase in September 2021. This regulatory measure has ensured that university instructors receive a minimum monthly payment of 200,000 KZT (£356.35 based on the Google exchange rate as of May 10, 2023). Furthermore, senior lecturers will receive a minimum wage of 230,000 KZT, associate professors 260,000 KZT, and professors 350,000 KZT (£623,62). National universities will provide a salary of 400,000 KZT (£712.71) for professors[8]

Furthermore, even though the government has been increasing GDP and state spending on education (Aryn and Issakhova, 2018), it is still considered lower than the expected funding by UNESCO, which is 5.6 per cent of GDP (Pons *et al.*, 2005). These financial

[8] Ministry of Education of the Republic of Kazakhstan, 2021

issues may have an adverse impact on all areas of formal training systems including teaching materials, the overall context of an already struggling education system with poor conditions, low salary levels, and the perceived low status of teaching staff (Toimbek, 2021).

Although the Ministry of Education and Science of Kazakhstan has an ambitious plan to develop the capital city of Nur-Sultan into a Central Asian hub for education and recruit fifty thousand international students by 2020 (Mukhamedjanova, 2020:121), the expenditure on higher education in general places doubts on any quick improvement in higher education provision across Kazakhstan in the near future. Despite this, significant progress has been made in internationalising higher education through different approaches such as the Bolashak scholarship, joining the Bologna Process, and building Nazarbayev University.

According to the National Report of the Ministry of Education and Science of Kazakhstan (2019), the level of education of the population of Kazakhstan is relatively high and is approaching the average level of the OECD member countries. The share of citizens with higher education aged 22-28 was 45.6% in 2019 against the planned 45.9%. In the 2017-2018 academic year, the contingent of universities in Kazakhstan amounted to 534,421 students, 496,209 of them in bachelor's degree programs, magistracy - 34,609 (scientific and pedagogical direction - 19,431 people, profile - 15,178 people), PhD - 3,603 people. Of the 125 universities in Kazakhstan, 73.6% are private universities, whereas the rest are state-owned[9].

Nowadays Kazakhstan has a mix of research centres, universities, colleges, and specialised institutions. Some universities exemplify a specialised sphere of academic emphasis. For instance, Abay Kazakh National Pedagogical University[10] focuses on pedagogical training in different fields, whereas KazGUU University named after Maqsut Narikbayev was assigned with the responsibility of cultivating a cadre of proficient legal professionals.[11] Satbayev University holds the distinction of being one of the venerable educational institutions and serves as the prominent hub for engineering education in Kazakhstan.[12]

[9] Agency for Strategic Planning and Reforms of the Republic of Kazakhstan Bureau of National Statistics stat.gov.kz

[10] https://www.kaznpu.kz/en/

[11] https://kazguu.kz/en/o-kazgyuu/

[12] https://satbayev.university/en/history

Some other universities in Kazakhstan excel in various fields (medicine, humanities, business and the like) expanding their educational offerings in those domains.

However, in Kazakhstan, state universities lack autonomy, particularly in finances which restricts their rights and prevents them from fully developing internationally. Private universities on the other hand are completely autonomous and self-governing, specifically in academic, monetary, and organisational terms. Their operations are supposedly regulated by The Board of Trustees Institute but have little legal authority, making it more of a university's quasi-educational body (Yessentemirova, 2018).

2.2.1.2 Bolashak

Despite the economic severity in the early independence period after the collapse of the USSR, the first president, Nursultan Nazarbayev, initiated the Bolashak scholarship programme for the purpose of developing a labour force that could compete in an international context without being limited to oil (Bayramov and Abdrazakova, 2016). The program's primary objective is to aid in the nation's human capital advancement, with a long-term objective of fostering economic and social progress. Specifically, the scholarship programme has respective rationales. First and foremost, it aspires to close the skills gap in general in the Kazakh economy by offering Kazakh students top-notch education and training so they would be prepared to support the economic growth of their home nation. The second goal of the programme is to develop a pool of highly educated and competent individuals who can aid in Kazakhstan's transition to a knowledge-based economy. Thirdly, by exposing Kazakh students to a variety of cultural and academic experiences, the programme hopes to foster cross-cultural dialogue and global collaboration (Bayramov and Abdrazakova, 2016; Bolashak, n.d.; Sagyntayeva & Jumakulov, 2015; Jonbekova *et al.*, 2022).

In the original Decree, it was proposed

> *To create financial support for this activity, select candidates and coordinate international relations in the field of education, I DECIDE: To establish an international scholarship of the President of the Republic of Kazakhstan 'Bolashak' for the training of talented youth in leading educational institutions in the USA, Great Britain, France, Germany and other countries…. The Government of the Republic of Kazakhstan annually, starting from 1994,*

> *allocate the necessary foreign currency funds for these purposes* (Decree No. 1394, 1993).

Following the order, amongst the post-Soviet nations, Kazakhstan was the first country that provided its young people with opportunities to study at top foreign universities through a *Bolashak International Scholarship* (Bolashak, n.d.). Throughout its implementation, the young generation could study in 200 top higher education institutions in 33 countries (Byramov and Abdrazakova, 2015:194). Initially, the programme intended to send students for master's degrees, but seven years later, in 2000, it provided scholarships for PhD programmes. Also, short-term research internships for university faculty and bachelor's degree programmes have been provided since 2005 and 2008, respectively.

The table below provided by Dairova et al. (2013:94) summarises the number of grants allocated for different levels of study. One can see that the number of PhD programmes was low in all years from 2005 until 2013, whereas the figure for other levels such as bachelor's and master's was noticeably high.

Study Level	2005	2006	2007	2008	2009	2010	2011	2012	2013*	Total
Bachelor	1 243	441	97	636	419	543	-	-	-	3379
Master	478	299	138	607	561	881	447	560	6	3977
Candidate of Sciences (post-Soviet degree)	18	5	1	10	-	-	-	-	-	34
Residency	2	14	20	15	10	26	-	-	-	87
PhD	55	19	11	15	11	11	14	15	1	152
Internships	-	-	-	28	12	200	59	527	10	836
Total	1796	778	267	1311	1013	1661	520	1102	17	8465

Source: Official website of the Center for International Programs http://bolashak.gov.kz
* before March 2013

One of the reasons behind the low number of PhD applicants might be related to the average diploma score requirement. For instance, at a briefing on the selection of applicants for the Bolashak, Nygymetov, the previous Bolashak president, said that in 2014, the threshold of the average diploma score[13] for applicants entering doctoral studies has been lowered from 5 to 4. Previously, doctoral students who already had an invitation from a foreign university could not apply for Bolashak because for a number of reasons their average diploma score did not exceed 4 ("Now You can Enter the Bolashak Doctoral Program with an Average Diploma Score of 4", 2015). Consequently, the new norm increased the number of doctoral students eligible to access the Bolashak programme. The

[13] According to Warwick entry requirements, for Kazakhstani applicants a score of 4.3 - 4.69 out of 5.0 from a well ranked institution is considered comparable to a UK 2.1, while a score of 3.9 - 4.29 out of 5.0 is considered comparable to a 2.2.

following years indicate an increase in the number of grants for PhD study; it almost doubled from 25 to 40 between 2014 and 2015, respectively (Bekbauova *et al.*, 2017). However, its number plummeted to 27 in 2017 (Alibekova**,** 2018**).**

Another reason for the low number of PhD graduates could be their limited language competence because 3000 scholarships offered per annum are not claimed fully due to prospective candidates' foreign language skills (Oralova, 2012) However, no data is available about how many would have been eligible but did not apply. As one can see, despite the attempt to increase number of PhD applicants, it still can be considered low in terms of university and PhD graduates' ratio.

Since its initiation, 14,465 Kazakhstan young people have obtained their degrees in 200 top higher institutions covering 33 foreign countries. Among them, 8,279 graduates completed their labour contract[14], whilst 3,026 of the returned graduates are working in Kazakhstan towards completion of the contract with the Bolashak centre. One thousand nineteen owners of the scholarship are currently studying abroad and being placed for training (Bolashak, n.d.). Although Bolashak plays a significant role in contributing to the human capital development of the country (Decree No. 1118, 2010) in general, its impact on increasing the number of specifically doctoral graduates may not be satisfactory. There have only been 306 PhD graduates under the Bolashak programme since its inception (Musapirova**,** 2019**).** This means that on average each university in Kazakhstan may have two or three PhD graduates with foreign degrees through Bolashak because, according to national statistics, there are overall 125 universities (see Section 2.2.1.1).

As one can see, the total number of all PhD Bolashakers can be considered low. This figure shows that the Bolashak programme needs to focus on increasing the number of PhD students because PhD students improve creative and innovative thinking skills that contribute to the research development of institutions and the country's economy in general (Halse and Mowbray, 2011). This idea is also supported by the previous president of the Bolashak Centre. The president noted that the country needs thousands of graduates with PhD degrees in education, engineering, and manufacturing to advance the country (Perna *et al.*, 2015). Therefore, a recommendation would be that less scholarships are allocated to masters and more to PhD through Bolashak.

[14] Prior to studying abroad by Bolashak, graduates sign a contract to work in Kazakhstan for a specific time period upon graduation.

Furthermore, primary data obtained from executives of the Centre for International Programs and cabinet members through semi-structured interviews by Perna *et al.* (2015) reveals that Bolashakers impact the country because Bolashak obliges the scholarship recipients to return to Kazakhstan and work according to their degree programmes. For instance, the Agreement proceeds the following way: to ensure the fulfilment of the obligations of the Scholarship holders under the *Agreement for the organisation of training*, a contract of pledge of immovable property is concluded. If the cost of the pledged real estate does not cover all the costs of the agreement for the training organisation, additional guarantee contracts are established. For instance, if the cost of training is covered by collateral for more than 70 per cent – one guarantor, from 50% to 70% - two guarantors, between 30% and 50% - three guarantors, and less than 30% - four guarantors (Bolashak, n.d.).

Furthermore, according to the Bolashak, each graduate of the programme is obliged to work based on their speciality for a certain number of years after completing their study abroad. So, in cities of national significance, working off their contract for a graduate is five years, in the regions – three years. However, graduates in education can work for two years in regions to fulfil the work obligation (Bolashak, n.d.). This approach is expected to foster socio-economic development in regions and improve regional higher education by sending graduates to work in less-developed territories for a shorter period. As a result, the percentage of graduates working in regions increased from 3% to 30% since its inception (Bokayev, 2020). This increase suggests that Bolashak's policy to develop regions is making progress.

The ex-administrator of the programme explained that to avoid the failure of African, Indian, and Middle Eastern scholarships that failed to attract or compel their students to return, Bolashak demands a financial guarantee from the scholarship recipients who do not wish to fulfil the agreement (Perna *et al*., 2015). For instance, a number of observations suggest that historically, most African students who left for the US to pursue a PhD and other degrees were non-returners (Teferra, 1997, Firsing, 2016; Mulvey, 2022). However, if the Bolashak scholarship recipient does not fulfil the centre's obligations, Bolashak has the right to assume ownership of any immovable property listed in the financial guarantee by a Bolashaker (Bolashak, n.d.). As a result, over the 20-year history of the programme, 47 Bolashakers did not return to their home country (Nurbek, 2013**).** This number can show the effectiveness of the scholarship policy. These procedures are considered by Knight (2012) as a minimiser of brain drain. She (2012) notes that signing contracts with

mobility students and scholars facilitates the source countries to minimise brain drain (Knight, 2012). By concluding contracts, Bolashak's effort to increase human capital and avoid brain drain seems rational to avoid issues other countries' (Oosterbeek and Webbink, 2011; Sajjad, 2011; Guo and Wu, 2016) are experiencing. However, decreasing the number of years for graduates to fulfil their contract might result in further brain drain issues.

Through analysis of semi-structured interviews conducted in May and September of 2012 and in May of 2013 with 62 deliberately selected participants, including public officials, Bolashak recipients, and managers of the Bolashak programme, Perna *et al.* (2015) found that Bolashak scholarship has a significant impact on communication, English language, leadership, critical thinking, and management skills of its participants. However, their exploratory qualitative study focused on only master's degree holders by excluding the data obtained from PhD degrees and research interns. The study would have been more helpful if they had included the data of the six PhD graduates. Furthermore, in their research, the authors considered how studying abroad by Bolashak impacted the recipients' skills instead of what impact the Bolashakers had on higher education. With its more than 25 years history, it could be argued that it is already time to see whether higher education institutions can produce and provide internationally competitive knowledge through Bolashakers for the younger generation of Kazakhstan.

Even though the number of PhD graduates is small, exploring their experience after returning may reveal valuable information on the internationalisation of research and development in Kazakhstan, which is still evolving in the higher education system of Kazakhstan (Jumakulov *et al.*, 2019). Also, exploring the experience of PhD holders with foreign degrees may provide empirical data on how universities approach the research university concept, which is a new development in the field of higher education in Central Asia (Sagyntayeva and Kurakbayev, 2013). It again shows that research specifically related to the impact of long-term external academic mobility of PhD graduates is lacking in this context.

In summary, this sub-section considered the Bolashak scholarship and its brief history. Regarding the numbers mentioned above, one can see that the number of Bolashak graduates has increased since Bolashak's initiation. However, the number of PhD graduates is still low compared to other study degrees. The number of non-returners is low as well. It can be due to the productive approach of the programme that obliges the graduates to return by signing contracts. That way, it tries to avoid the failure of other countries to lure back their citizens. Furthermore, the literature shows that graduates

experience positive career progression in many areas of the economy. However, the limited number of studies in the literature indicates a need to delve into PhD graduates' career progress and their impact, specifically on the internationalisation of higher education. Moreover, it is recognised that their aspiration to emigrate explored as Kazakhstan has experienced a significant brain drain issue. The following section focuses on the internationalisation process in Kazakhstan.

2.2.1.3 Bologna Process

The next significant aspect of the internationalisation process in Kazakh higher education is joining the Bologna Process. The Kazakh government intends to integrate its higher institutions into the Bologna Process to complement the Bolashak international programme to internationalise its higher education and improve the country's capacity and are expected to help Kazakh higher institutions become fully-fledged members of the academic society internationally (Mouraviev, 2012). The main issues reviewed in this section are a) when Kazakhstan joined Bologna Process, b) changes in higher education after joining the Process, and, c) positive and negative viewpoints on the Bologna Process.

Being the first among the post-Soviet countries, Kazakhstan joined the Bologna Process on March 11, 2010 (Turumbetova, 2014). Bologna Process is a system that promotes interstate collaboration and coherence between 48 European states in the higher education domain.[15] It created the European Higher Education Area to enable easier mobility for students and staff and enhance inclusivity, accessibility, and global competitiveness. The participating countries agreed to implement a three-cycle higher education system, recognising qualifications from other universities, and establishing quality assurance measures to improve the quality and relevance of education. The international collaborators of the European Higher Education Area (EHEA) continually adjust their higher education schemes to increase their compatibility and strength in quality policy practices. The central objective for all the participant countries is to increase mobility amongst students and faculty and assist in their employability (EHEABP, n.d.; Bogatyreva and Shukusheva, 2020). By signing the Bologna Declaration and becoming a full member of the European Higher Education Area (EHEA), Kazakhstan agreed to ensure the mandatory parameters of the Bologna Process, which are primarily associated with the internationalisation of higher education, provide academic mobility experience for 20% of

[15] https://education.ec.europa.eu/education-levels/higher-education/inclusive-and-connected-higher-education/bologna-process

students by 2020 (Sagintayeva and Kurakbayev, 2013), and the adoption of a three-tier higher education system with Bachelor, Master, and PhD levels (Bagatyreva and Shukusheva, 2020).

In addition, the Ministry of Education and Science has realigned the National Accreditation Centre according to Bologna Process Centre and academic mobility to assure that the internationalisation policy of higher education is along the right lines (Sagyntayeva and Kurakbayev, 2013). Moreover, the Kazakh Ministry has already made 113 agreements with foreign countries about international scholarships and another eight intergovernmental agreements to promote the outgoing academic mobility of students. Currently, there are 38 double-degree programmes in academic institutions of Kazakhstan in collaboration with external partners (Sagintayeva and Kurakbayev (2013:23). Implementing the principles of education applied in developed European countries has been advantageous for both Kazakhstani universities and students in terms of developing syllabi, improving education standards, and the possibility for academic mobility of students (Turumbetova, 2014).

For instance, Kazakhstan universities have created internal departments responsible for implementing strategies for academic mobility programmes and cooperating with foreign counterparts and scientific research centres abroad; this includes organising international conferences, seminars, and opinion polls from university students (Analytical Report, 2018). However, the report (*Ibid.*), recommends expanding the range of educational programmes in English, continuing the development of textbooks and teaching materials in the English language, and assisting students and teaching staff in improving their language skills. Furthermore, interviewing 18 representatives of universities and the Ministry of Education and Science (MES) of Kazakhstan in his mixed-method research, Gazdiev (2013) notes that the international cooperation development strategy is progressing very slowly, which applies primarily to the academic mobility programme. Interviewees in his (*Ibid.*) study give three main reasons for slow progress: poor knowledge of foreign languages, expenses related to studying abroad, and issues related to visas. Furthermore, comments from respondents indicate the lack of proper infrastructure and joint research projects with partner universities as the reason for the poor progress of academic mobility of PhD students. However, after five years, these barriers were again mentioned in the A*nalytical Report* (2018).

Indeed, the Bologna Process was expected to offer possibilities for PhD students through partnerships with foreign colleagues and link the research field in Kazakhstan to the international scene (Tazabek, 2018). However, in practice, the Bologna Process has

become one of the maladjusted formalities in Kazakh higher education due to the Soviet legacy, which is a compensation system tied to teaching duties (Yergebekov and Temirbekova, 2012; Kuzhabekova and Ruby, 2018). It has increased academic members' incentives to teach, often concurrently at many colleges, and this leaves limited time to conduct research. For instance, the typical teaching workload for lecturers in Kazakh higher education was relatively high at 800-900 hourly contact hours (equivalent to 20-26 hours per week of class interaction), as compared to 180-240 hours in the US, and this condition continues to exist in the present day (Kuzhabekova and Ruby, 2018, p.267).

Furthermore, young researchers' insufficient proficiency in English renders the Bologna Process incongruous. Tazabek (2018) further argues that instead of solving the issue of English amongst students and faculty, the MES initiated new proposals for prospective PhD graduates to publish in international journals with high impact factors. However, one can be concerned whether their works can meet international standards because they are supervised mainly by faculty who were trained in Soviet-style education and most of whom do not have international degrees (recall the low number of PhD Bolashakers mentioned earlier) and enough time. Moreover, the quality, reliability, and levels of transparency in doctoral thesis defence might be doubtful as there is an increase in publications in fraudulent journals (Kuzhabekova and Temerbayeva, 2016; Tazabek, 2018) which is perhaps an unintended consequence of a competitive attitude towards internationalisation. Therefore, one can question Turumbetova's (2014) statement about the successful implementation of the Bologna Process in higher education in Kazakhstan.

According to the plans for implementing the Modernisation 3.0 programme, by 2025, it is estimated to increase the share of English-speaking teaching personnel to 20 per cent, increasing it by 1.6 per cent annually (Analytical Report, 2018). It seems a remarkably ambitious attempt by the government; however, there arises a question of how the government can reach this challenging agenda within a short period and with PhD students and scholars' low level of English, lack of experience in international scholarly work, and inadequate financing (Kuzhabekova et al., 2019). Another critical issue can be whether or not returned PhD graduates and other intellectual emigrants have been involved in eliminating the barriers and improving the quality of internationalisation of higher education in Kazakhstan.

2.2.1.4 Nazarbayev University

Internationalisation extends beyond the scope of academic mobility alone and can be divided into interconnected concepts: 'internationalisation at home' and 'cross-border education' (Knight, 2012, p.22). The Bolashak programme is associated with the latter concept because it focuses on the mobility of students. On the other hand, the establishment of Nazarbayev University in 2010, which is the flagship of higher education in the country and aims to become an international research university (Sagyntayeva and Kurakbayev, 2013), aligns with the former concept as it aims to prepare graduates at home (Kazakhstan) to advance research, the education system, and the domestic economy (Oralova, 2012). To achieve these goals, the university leads various initiatives including increasing funding, enhancing faculty members' skills and competencies, integrating global specifications and structures, gaining international recognition, and increasing the number of admissions (Hanson and Sokhey, 2021).

For instance, the university admitted 500 students at its initial enrolment (*Ibid.*, p.240). There are now 6365 students currently receiving their education with English as the language of instruction at Nazarbayev University. Among them, 4249 students are undergraduates, whereas 1467 are graduates. There are 649 students at the foundation level. The university plans an increase in the number of students to eight thousand by 2025, with an expectation that 10% will be international students (Nazarbayev University, n.d.). Furthermore, the composition of faculty members at Nazarbayev University (NU), 70% are international drawn from 58 countries and 30% are local educators. In terms of locals, there are 205 Bolashakers and 104 NU alumni. Most faculty members are assistant professors (34%), followed by associate professors (19%). Instructors amount to 20%, whereas 12% are classified as teaching fellows. However, perhaps indicating levels of research activity, only eight per cent are professors, and five per cent are postdocs overall. Moreover, the university is no exception in terms of bureaucracy in Kazakhstan universities. It causes tensions between foreign faculty members and the local administration team because the latter do not understand the consequences of the bureaucracy for the former. In contrast, the foreign faculty do not realise the concerns and consequences of not following the regulations for the administration staff members (Nazarbayev University, n.d.).

In the pursuit of expanding globally professional communities, the university has entered into collaboration agreements with prominent overseas universities, including the University of Cambridge (UK), the National University of Singapore (Singapore), and

Duke University (USA). In the university S*trategy 2018-2030* approved by the Supreme Board of Trustees on December 1, 2018, it was noted that the partner universities played a consulting role at the early stage of the university by assisting in curricula preparation, faculty recruitment, and policy advice. Although the university has become established, maintaining partnerships with prestigious universities continues to be necessary (Nazarbayev University, n.d.). An important factor that necessitates careful consideration in promoting and fortifying partnerships with prestigious universities is the exploration of the impact of returned PhD graduates on advancing internationalisation effort.

Nazarbayev University's Strategy for 2018-2030 includes a goal to increase positions for post-doctoral applicants to improve the university's research and education environment and become more competitive internationally. It can be manageable for the university as they receive around 1% of the overall budget allocated to education in Kazakhstan, $85 million according to the authors, which is considerable funding (Hanson and Sokhey, 2021). Moreover, attracting homecoming academic Kazakh diaspora by providing financial and research opportunities and developing satellite offices in different parts of the world are on the university's agenda. Despite that, there have been few empirical attempts on involving intellectual emigrants in the internationalisation process at Kazakh higher education; and, in the university's long-term strategy (Nazarbayev University, n.d.), it was noted that plans to attract them are in progress. However, the Strategy considers the diaspora option as a pipeline of candidates (p.33) instead of a source of knowledge circulation between Kazakhstan and developed nations. Their strategies might fail because they are limited to returning intellectual emigrants to Kazakhstan. There might be intellectual emigrants who are willing to collaborate with scholars in Kazakh higher education without returning to their home country for the long term. It may also be the case that there are also informal cooperation activities, and this will be examined later in the thesis.

University global rankings or 'league tables' like the QS World Universities Rankings[16] and the Times Higher Education World University Ranking[17] distinguish world-class universities based on fundamental characteristics such as research excellence and income, financial resources, proportion of PhD students, freedom of education, well-resourced facilities for teachers, researchers, administrative staff, and students in addition to high-quality faculty members (Salmi, 2010). Policies and strategies to develop these can be seen

[16] https://www.topuniversities.com/university-rankings/world-university-rankings/2023

[17] https://www.timeshighereducation.com/world-university-rankings/2022

in Nazarbayev university's attempt to some extent. However, there are other regional and urban universities in Kazakhstan, and the majority of them are still underprivileged due to less financial resources being allocated and low numbers of faculty with international degrees. Furthermore, being controlled by the government, most higher education institutions experience an inadequate number of quality faculty members, limited managerial autonomy of universities, and, disparities in the quality of education between local and global universities (OECD, 2017 cited in Toimbek, 2021).

The development of Nazarbayev University was another approach to internationalising higher education and turning Kazakhstan into a Central Asian educational hub by including the intercultural and international dimensions in the teaching-learning and research processes and by integrating foreign students and scholars into campus activities (Knight, 2012, p.23). It is now well evidenced that Nazarbayev University employs many foreign faculty members and Bolashak graduates, and that other Bolashakers are employed in other higher education institutions. However, a frustratingly small number of returned PhD graduates in higher education and very little research about their impact on the internationalisation of higher education and their career progression after their return inevitably garner significant attention, leaving no choice but to acknowledge its presence. Exploring these issues may reveal shortcomings of internationalisation practices at the institutional level.

2.2.2 Misconception of Internationalisation

Although the thesis focuses more on the individual level of internationalisation (academic mobility), it would be worth briefly considering the misconceptions of internationalisation at the institutional level and its implementation in practice because although they are different, both (individual and institutional levels) are closely related and complementary (Knight, 2012). As internationalisation evolves, it is seen as a more complicated process (Knight, 2011), that includes many different elements: internationalisation of campus and curriculum (Beelen and Jones, 2015), diversity in the forms of external mobility (Knight, 2012), and internationalisation of research that is linked to international collaborations to improve scientific excellence (Gornitzka and Langfeldt, 2009). Different aspects of internationalisation and approaches to achieve them driven by different motivations in diverse contexts are likely the reasons for the concept *losing its meaning and direction* (Knight, 2011:14). Although considering all misconceptions at the institutional level is beyond the scope of this study, some misconceptions in the broader picture are discussed in this sub-section.

A number of authors are critical of how the internationalisation of higher education is perceived (de Wit, 2013, 2017; Knight, 2015; Lassegard, 2016). An increase in the overall number of mobile students in the UK, European, and non-UK and non-European countries from 2.4 million to almost three million over the last five academic years (HESA, 2022) conceivably shows that universities are perhaps the main driver of the increase in international students. This is exemplified in the work undertaken by Fok (2007) who notes that Hong Kong higher institutions focus on attracting elite international students, and to that aim, scholarships and support are provided for those students to study in Hong Kong. In Fok's (2007) article the university managers claim that cultural diversity encourages students to think outside of the box, and genuine collaboration can be stimulated by cultivating long-lasting contacts between local and international students.

In contrast to Fok (2007), Knight (2015) and de Wit (2013, 2017) believe that having more overseas students on university campuses as a measure of internationalisation is a slight misconception, and it does not necessarily internationalise the university because, in fact, many international students feel socially isolated due to resistance of local students to undertake projects with them collaboratively or socially engage with them (Knight, 2015). This point of view is supported by empirical findings (Kroner-Herwig, 2015; Bradlaey, 2000; Gu et al., 2010; Poyrazli and Lopez, 2007) where international students experienced loneliness, academic difficulties, mental and psychological challenges during their studies abroad that result in their homesickness, and it affects their academic achievements (Poyrazli and Lopez, 2007). So, instead of simply increasing the number of foreign students, university administrators need to pay close attention to developing a plan of targeted action to avoid this type of issue (Knight, 2015).

Generally, overseas universities are believed to provide quality education often based on ranking systems, but recruiting a large number of international students alone can be considered a quantity-based approach. The quantity-based approach may negatively affect the value and quality of the internationalisation of higher education (Wit, 2013, 2017) unless the university staff develop specific programmes and initiatives that involve both international and local students (Knight, 2015; Poyrazli and Lopez, 2007). For instance, Lassegard (2016) believes that since the lack of evaluation of quality assurance procedures in the attempt toward internationalisation in Japanese universities, the higher institutions overstress quantitative measures and goals:

> rather than broad attempts to internationalise the university, or to provide a setting conducive to global learning, the focus has been

> almost exclusively on international student exchange, and its goals are numbers driven or quantitative. (*Ibid.*, p68).

Furthermore, it is believed that the more universities have international academic personnel and students, agreements, networks, and programmes, the higher their status. However, it is not always true according to Knight (2015) because this is linked to a mistaken belief that high international popularity is representative of quality. This misconception can sometimes be compounded by chasing after global rankings that are regarded as crucial by some universities (Knight, 2015; de Wit, 2013) despite their various limitations Which include: the inability to cover all the diversity both across and within universities, statistically insignificant data to rank institutional differences, and a tendency to operate as a prestige gainer (Marginson and van der Wende, 2009:122).

Similarly, the issue of limitations in rankings regarding internationalisation is supported by Delgado-Marquez *et al.* (2011) too who quantitatively and qualitatively investigate the internationalisation variable in the top three rankings such as *Times Higher Education Supplement, Academic Ranking of World Universities, and Webometrics Ranking*. They (*Ibid.*) propose that it is quite possible that the number of foreign students is low at specific levels although some top universities gain high scores in the ratio of foreign and local students. For instance, amongst the most applied indicators for internationalisation is the proportion of international students in comparison to local students. Considering this indicator as a benchmark, Horta (2009 cited in Delgado-Marquez *et al.*, 2011:270) notes that although top universities such as Harvard, Yale, or Cambridge show relatively high scores for the marker in general, enrolled international students' number in disaggregation shows only sixteen per cent for bachelor level, whereas it reaches 41 per cent at the level of graduate programmes. It would have been more interesting if a specific percentage of international and local students' ratio had been identified as the indicator of internationalisation quality.

Another point mentioned in the study of Delgado-Marquez *et al.* (2011) is internationalisation markers applied in the rankings may not reflect the true picture of the internationalisation process due to various assessing markers. Those markers focus on different critical aspects. For instance, the data for most universities show that they gain high scores for international academic staff and students despite some of their scores for teaching and research quality being low. They (*Ibid.*) also conclude that focusing solely on international teachers and students may sometimes lead universities to frustrating consequences, worsening their reputation, for instance. In this regard, it would have been

more interesting if they had emphasised which universities showed low scores for teaching and research while their scores for international teachers and students increased.

Although these findings are limited to 100 elite universities, the study may divert some decision-makers responsible for tertiary education from a goal-oriented approach because at times they become focused on international rankings. Some decision-makers are mostly concerned with the pursuit of high levels on ranking lists despite their exclusive nature. According to Milliot (2014), rankings are generally concerned with only a limited number of world-class universities and exclude the majority. For internationalisation to be productive in terms of teaching and research quality, it should not be considered as a goal (de Wit, 2017). Instead, it should be seen as a process that improves the purpose, function, and provision of higher education and keeps the quality of research and pedagogy up to date (de Wit, 2013, 2017).

The next myth is that instead of active university partnerships, the number of international agreements is considered as an indicator of successful internationalisation. However, it often represents internationalisation in a paper form, and may not actually signify effective collaboration (Knight, 2015). As noted by de Wit (2017) some universities appear to have a smaller number of students and academics with experience of an international exchange than the number of agreements with partner universities.

While Knight (2015) and de Wit (2017) do not claim that partnerships are unimportant in relation to internationalisation, managers need to prioritise the limited number of partnerships with other universities productively to reach maintainable partnerships because partnering is likely to benefit both constituent institutions as well as their students in various ways. For instance, in their case study of a partnership between a South African and a US university that focuses on providing leadership training for adults, Anderson and Maharasoa (2002) note that the partnership benefited learners in terms of learning from experts from DePaul, one of the leading Business Schools in terms of rankings (DePaul University, n.d.), and provided possibilities for colleagues to collaborate with one another, and assisted the students in obtaining globally recognised qualifications (p.20).

In the same vein as Maharasoa (2002), examining the reactions of institutions and authorities to internationalisation and intending to find the motivation for their actions, Taylor (2010) suggests that partnership may develop science in low- and middle-income countries by providing access to participation in international research that possibly leads universities not only to financial profits but also to improvements in quality and

competitiveness. Berry and Taylor's (2014) study of interviews with high-level administrators in six Columbian and Mexican higher education institutions seem to support the idea of university competitiveness by noting that it is likely that partnerships assist in increasing the institution's profile and status abroad. For instance, interviewees in the study of Berry and Taylor (2014) noted that there is no longer any need for them to search for universities for partnership as foreign universities now ask them to collaborate.

However, the problem with focusing on a partnership-oriented approach only is that it may fail to take institutional change within the universities into account. For instance, in Asia, higher education institutions are attempting to develop into the best *universities* worldwide. To that aim, they have reorganised their higher education systems, changed administration practices from an old-fashioned centralised model to a new international market-oriented model, adopted new approaches to improve their status globally and meet international benchmarks comparable with their counterparts and competitors in Europe (Mok &Cheung, 2011). To develop the competence of Hong Kong universities globally, the government seems to understand the role of diversified channels of finance for higher education and apply corporatization approaches in higher institutions to fulfil financial and managerial purposes (Mok, 2009). The studies of Mok and Cheung (2011) suggest that universities in developing countries need to focus more on their transformation from outdated to market-driven models rather than simply aiming to increase the number of their partner universities.

An assumption that more overseas recognition of quality reflects a high level of internationalisation is the next misconception, whereas confusing the internationalisation of HE with marketing engagement internationally is another misunderstanding of the process. The former rarely has a direct relationship to the volume or variety of international efforts linked to teaching, learning, and research activities and does not show the effectiveness of the international function of universities to serve society. The latter emphasises two different directions because the goals, results, and investments are different in global branding and internationalisation of higher education. However, planned and effective internationalisation programmes are likely to increase universities' prominence internationally (Knight, 2015; de Wit, 2017).

2.2.3 The Role of the English Language in the Internationalisation Process

English has gained the status of a lingua franca globally, and it is acknowledged all around the world. It can be seen from the fact that English is given the status of official language in more than seventy nations including both developed and developing countries. Furthermore, it is the language commonly taught as a foreign language in more than one hundred states (Crystal, 2003). In relation to this, Kazakhstan is no exception. For instance, since 2007, the Trinity of Languages Policy has been underway (Moldabaeva, 2017) that emphasises learning English along with Kazakh and Russian from primary to higher education. The policy aims to increase the number of English-speaking individuals by a minimum of 20 per cent by 2020 (Oralova, 2012).

In many higher education systems, English is considered a crucial component of internationalisation (Oralova, 2012), and for some, it has become synonymous with the development of internationalisation policies and strategies (Galloway *et al.*, 2020). It is also suggested that English is likely to aid internationalisation efforts by facilitating the adoption of international teaching models (West and Frumina, 2012). For instance, forty-two Kazakh universities started using English as the language of instruction to provide training programmes for certain groups of students (Seitzhanova *et al*., 2015). Even though Kazakh universities have started to provide education in accordance with European standards and focus on English at the institutional level, the majority of Kazakh universities seem to experience challenges in teaching and learning quality in English (Seitzhanova *et al*., 2015; Oralova, 2012). The conflict between student demand and the quality of course delivery by older faculty, specifically. The former recognises the importance of English as the language of instruction, whereas the latter speaks only Russian, and some of them do not support the idea of teaching local students in English.

Furthermore, although older faculty may exhibit academic excellence, some of them are unable to collaborate constructively with their international colleagues using English and this may result in them lagging behind their competitors in international research outputs (Oralova, 2012:132). Moreover, in their qualitative study, Seitzhanova *et al.* (2015) concluded that even though some lecturers can speak conversational or social English, their level of academic and technical English literacy is not sufficiently high to be able to deliver knowledge in their specific subject. In addition, the limited availability of academic literature in English, and of English training courses for faculty who do not specialise in English have been considered obstacles to increasing the quality of English as the language

of instruction at Kazakh higher institutions (p.76) and consequently may affect the possibilities of academic mobility amongst students.

Despite both authors, Oralova (2012) and Seitzhanova *et al*.'s (2015), raising important issues related to English as the language of instruction at the time of the internationalisation process in Kazakh higher education, both suffer from some serious methodological limitations due to the limited number of participants, universities, and methodological approaches. Moreover, both studies considered the issue from either students (Oralova, 2012) or lecturers' (Seitzhanova *et al*., 2015) perspectives. It may have been more constructive if they addressed the issue from both perspectives by providing detailed descriptions and a higher number of participants.

Having recognised the role of English in the internationalisation process, approaches vary by country in terms of developing English as the language of instruction. For instance, in the Vietnamese context, Duong and Chua (2016) report that teachers who use English as the language of instruction earn 2.5-fold higher than their colleagues who use Vietnamese in their teaching. Also, educators are motivated to develop their English through the Teaching Excellence Award. Above all, employees with English language skills are more likely to advance to more senior roles.

This internationalisation of higher education from the perspective of language of instruction is different in the South Korean context (Lee and Kim, 2010). Indeed, some universities in Korea expect their students to be taught and interact in English as the main language of instruction; successful applicants for teaching and research posts are mostly those who obtained their PhD degrees in the US or UK than local doctorates due to their perceived cultural awareness and ability to use English as the language of instruction, which is highly sought after in Korea. Since universities emphasis on the English language and diversity of cultures, most of the mobile doctorates with UK and US degrees are more successful in aligning with universities' worldwide perspectives and expectations compared to local doctorates with academic excellence (Lee and Kim, 2010).

The role of returned graduates with Western degrees can play an important role in terms of teaching and doing research in English too. Shin (2012) argues that educators with Western PhD degrees outperform their colleagues because their language of instruction is mainly English, and they prioritise research and practice from an international outlook more than the latter. Also, regarding teaching, US degree owners focus on the exchange of ideas in

their instructions their local degree colleagues can be seen as rather conservative (Shin, 2012).

Whilst these studies highlight how prospective employees with PhDs from developed Western countries can play a significant role in the internationalisation of higher education (Lee and Kim, 2010; Shin, 2012); some universities approach internationalisation from the English perspective as the language of instruction without utilising those with international doctorates (Duong and Chua, 2016). Robertson (2010), in his analytical comment on international academic mobility, notes that linguistic variation appears to be decreasing due to a growing demand for teaching in the English language to manage multilingual classrooms.

Skutnabb-Kangas (2002) however, highlighted concerns that indigenous students may lose their language and culture as it is overlooked by the increasing importance placed on uniformness. For instance, compared to their local language, through the *English in Education* policy, the Taiwanese government increased support for the English language by providing electronic appliances, books, large classrooms for different activities for the target language development, and opportunities for online communication, which consequently resulted in a lowering of native language competence with age. It has resulted in young students listening and speaking in English more frequently than their elders in Taiwan. The status of their local language compared to English is low and it is suggested that this creates a negative environment for government and universities to support and promote indigenous languages. Moreover, publishing companies are unwilling to generate material in native languages because of low financial profitability and lack of demand. However, this is different from English. It is considered an instrument that helps locals advance in education and profession (Chen, 2006).

If PhD students whose language of instruction was in only English are future educators, and if universities require faculty to teach and interact only in English, shortly local indigenous people might experience the same situation as people in Nayerit (a state in Mexico) where indigenous people must take various training courses in Spanish to start their careers as a teacher instead of their mother tongue Cora. A lack of quality educational materials in the parent language and the high improbability of speaking their native tongue in class does not leave many learners any alternative but to use Spanish in their study (Jones, 2015). Looking at this from a cross-national perspective, it can be a valuable theoretical problem, but there is no research on such a situation in the context of Kazakhstan. Indeed, linguistic diversity is argued to support the evolution of humanity as it

enables humans to adapt culturally to one another (Skutnabb-Kangas, 2002), a critical factor in our increasingly global community (Banks, 2004).

To sum up, as noted before, there are many aspects of internationalisation, and it is likely to cause some misconceptions at the institutional level. This section has discussed some misconceptions about internationalisation at the institutional level even though the individual level is the main concern of the study. It is because they are directly related to each other. Moreover, the evidence presented in this section suggests that the majority of universities focus on attracting international students although this approach may result in unintended negative consequences such as mental and psychological issues and academic difficulties among international mobile students. This attitude may affect internationalisation negatively from moral and quality perspectives.

Furthermore, at the institutional level, it is also believed that improving their positions on ranking lists can indicate the quality of the internationalisation process which can be considered another misconception. Although rising on the rating lists can sometimes positively influence universities in attracting international students, the rating-oriented approach alone may not always represent high-quality teaching and research in real practice. Additionally, some studies reviewed here indicate that a high number of partnerships with other foreign universities is prioritised amongst a number of higher education institutions. This approach is also criticised by scholars specialising in the internationalisation of higher education (Knight, 2015; de Wit, 2013, 2017). Notwithstanding partnerships may provide access to participate in international research activities, it is recommended to have partnerships specific to their purposes and decrease them to a manageable amount. Their quality should be prioritised over quantity.

Misunderstanding the internationalisation process at the institutional level could also be seen from the English language perspective. According to the literature reviewed in this section, there is no doubt that the importance of English in the field of teaching and research is increasing, and English has its role in the internationalisation process. However, one question that needs to be asked is whether its impact on the local language is meaningful. For instance, in their definition of internationalisation, de Wit *et al.* (2015 cited in de Wit, 2020) note that internationalisation has to integrate multiple dimensions (mentioned earlier) into the functions of higher education to develop the quality of education and research and to make a meaningful contribution to society (p.iii). If English as one of the components of internationalisation oppresses the local language, how one can

say the contribution of internationalisation to society is meaningful from a language perspective.

Furthermore, as noted earlier, universities may prioritise PhD graduates with Western degrees more than those with local degrees due to their English, academic, and research excellence. If the former publishes their research in English only and if the latter does not have access to those publications due to various economic and educational reasons, how internationalisation can contribute meaningfully to society in terms of knowledge transfer could be another critical question. Scholars' priority to publish in English may also diminish the role of local scholastic journals in native languages and may negatively affect the development of science in the local language.

2.3 Academic Mobility

Literature suggests that academic mobility is one of the most important components of the internationalisation process at higher education institutions. Despite it being a comparatively new field, it has turned into a fairly ambitious industry worth many millions (Knight, 2013) and has been examined from a number of different perspectives. For instance, some authors have been interested in the concept from the institutional level (de Wit, 2017; Wadhaw and Jha, 2014), whereas others considered it from the perspectives of the individual (Lanzendorf and Kehm, 2010; Woolley *et al.*, 2008). The national level was also the focus of some other researchers (Tzanakou and Behle, 2017; Bhandari and Blumenthal, 2011). This is possibly the reason that various definitions of academic mobility exist.

2.3.1 Academic Mobility Definition

Tzanakou and Behle (2017) conceptualise academic mobility in two ways; spending part of the study time abroad (exchange) or completing a degree in a foreign university (degree mobility). Alternatively, Lanzendorf and Kehm (2010) define academic mobility as simply crossing the borders of nations to study higher education abroad. However, Tremblay (2005) points out that academic mobility is not limited to only crossing the border to obtain quality knowledge. It can sometimes be considered as a skilled personnel source for developed countries and an initial step for emigration for students from less developed nations. For instance, considering academic mobility from students and host countries' perspectives by reviewing the connections between studying abroad and the immigration of students, Tremblay (2005) notes that on one hand students may deliberately choose to

study abroad to provide better opportunities to emigrate afterwards. On the other hand, developed nations ease their immigration rules to offer possibilities for high-skilled workers to enter the employment market on an interim nature to solve urgent demand in the job market.

However, later studies show different trends. Welcoming policies or the condition of some host nations is changing due to economic distress, rises in rates of unemployment (Chiou, 2017) and, due to visa restrictions as a result of terrorist incidents (Choudaha, 2017). In other cases, contracts between international students and their home countries seem to impede foreign students' chances to gain highly qualified employment in host nations and limit further stay (Knight, 2017).

Regarding the institutional level, Jumabayeva (2016) considers academic mobility essential to internationalise higher education. In support of this, Wit (2017) and Wadhaw and Jha (2014) also note the importance of the concept of internationalisation, viewing it as a necessary instrument of marketing in an increasingly competitive global higher education market. Furthermore, by analysing the nature of student flows in accordance with *Open Doors* trend data Goodman and Gutierrez (2011:84) consider academic mobility in the US context as *'a two-way street'*.

> As international students and scholars play a key role in the internationalisation of US higher education, so also do US students who are increasingly pursuing their studies abroad.

One example of this is the provision of Fulbright Scholarships.[18] Fulbright graduates have a significant role in promoting collaboration between home and foreign institutions (O'Hara, 2009 cited in Goodman and Gutierrez, 2011).

Furthermore, academic mobility is considered at the national level too. For instance, Kenway & Fahey (2011) and Kim (2017) note that it aids competition between nations, whereas Tzanakou and Behle (2017) consider it as a potential source of income for some countries such as the U.K. In addition, according to Bhandari and Blumenthal (2011), it is a form of fostering cooperation and collaboration globally, particularly in a period of political and security intensity. As one can see at the national level itself, academic

[18] https://www.fulbright.org.uk/about-us/our-story

mobility is perhaps conditioned on the specific demands of the national context. Its positive and negative impact on nations will be discussed in later sections.

Moving now to the individual level, O'Hara (2009 cited in Larbi and Ashraf, 2019) used the term *academic mobility* to refer to the flow of academics beyond national borders. This definition underlines the movement of academics, but it fails to capture the purpose of their movements. However, according to a definition provided by Sweeney (2010), academic mobility is a duration of study abroad that lasts a minimum of one term in higher education programmes. This definition aligns with that provided earlier by Tzanakou and Behle (2017) and Lanzendorf and Kehm (2010) which emphasise the process itself rather than its actors. Therefore, this study follows the definitions provided by Sweeney (2010), Lanzendorf and Kehm (2010), and Tzanakou and Behle (2017).

In terms of actors of academic mobility, people who have experienced it are defined as international students. However, citing Global Education Digest (2006), Verbik and Lasanowski (2007:4) conceptualise those students who experience education abroad as *internationally mobile students*. It seems fair to adopt the term because if for students, academic mobility is a way to obtain knowledge abroad, consequently, they can be considered *internationally mobile students*.

There is a large volume of published studies describing the role of academic mobility for individuals, institutions, and nations. It can sometimes have positive and/or negative effects on them. In their exploratory survey of scholars who published in indexed scientific journals, Woolley *et al.* (2008:176) indicate three dimensions of academic mobility; obtaining knowledge and skills unavailable in the source country, building research-based socially capable networks through meetings with colleagues in the foreign academy, and leveraging results of research done collaboratively. In supporting this, Oosterbeek and Webbink (2009) claim that international academic mobility is expected to increase students' value in their native country and generate international connections that assist in greater cultural awareness. However, this is not always so because international mobile students may fail to absorb knowledge due to mental and psychological issues caused in host countries, and consequently, they may have academic difficulties (Knight, 2015).

For example, analysing empirical studies on academic mobility, Robertson (2010) notes that

> Universities in all corners of the globe are busy scoping, planning and advertising mobility programmes, as an essential component

> of academics and students' learning experience, whilst governments and regional bodies around the world are promoting mobility as crucial to learning in the new global economy. (*Ibid*. p. 641)

However, taking into account the interviews conducted by Yang and Welch (2010) Robertson (2010) also commented that research on academic mobility needs to be more aware of diverse viewpoints even within the diaspora with older Chinese academics who had settled at a prestigious Australian university perceiving a better environment, greater academic freedom and better access to networks than would have been possible in China. However, younger academics tended to have a different view with perceptions of recent socioeconomic developments and the availability of greater opportunities in China.

Robertson (*Ibid*.) also notes that variation exists in the degree to which mobile academics are able to contribute to the circulation of knowledge due to the fact that sometimes mobile academics do not return to their home countries or, have the necessary networks or communities in the host country to facilitate knowledge exchange and circulation. One example she suggests (*Ibid*.) that has attempted to overcome limitations in the circulation of knowledge is that of the Marie Curie programme of the European Commission.[19] Citing the work of Ackers (2005) Robertson (*Ibid*, p645) notes that the "scheme operated through, and substantiated existing networks, as well as playing a key role in developing new contacts." In short, she (Ackers) argues, the scheme helped to lubricate and strengthen networks. The consequences of academic mobility are discussed in more detail in later sections: Brain Drain, Brain Gain, and Brain Circulation.

Having reviewed the literature, one can see that definitions of academic mobility vary greatly depending on the specific focus. However, even though their approaches to academic mobility differ, most of them share a common theme of the mobility of knowledge. However, as this study intends to explore the impact of PhD graduates with foreign degrees and intellectual emigrants on the internationalisation of Kazakh higher education, all the definitions will thus be applied because the external academic mobility experience of PhD graduates is considered from different angles, namely brain gain, brain drain, and brain circulation issues. The following sub-sections focus on the figures and facts and types of academic mobility in higher education.

[19] https://marie-sklodowska-curie-actions.ec.europa.eu/

2.3.2 Types of Academic Mobility

According to the literature, there are various types of academic mobility. Therefore, this sub-section attempts to clarify certain types of academic mobility and represent which type(s) will be examined in this study. On the question of the types of academic mobility, Streitwieser (2014:88) suggests that there are two main forms: degree mobility and credit mobility. The former means that students leave their countries to obtain a new qualification, which is Bolashak's main focus. It gives local students the chance to earn degrees from other (developed) countries while requiring them to sign a contract that requires them to return later. However, certain students independently finance their degrees, and in the perspective of Bolashak, they are deemed as displaying irresponsibility. Therefore, degree mobility can be further classified into two types as such: degree mobility with or without contractual responsibilities. Credit mobility means that students go to universities abroad to study for a short period) and return to their home universities to finish their degrees. The time phase for credit mobility is usually less than twelve months, and students remain enrolled at their local universities while obtaining their credits at the host universities (Grabhet et al., 2014).

Initially, the ERASMUS Programme[20] was the basis for the call to establish ECTS (The European Credit Transfer and Accumulation System), and the European Commission proposed it to European Council on January 3, 1986.

> ECTS allows credits taken at one higher education institution to be counted towards a qualification studied for at another. ECTS credits represent learning based on defined learning outcomes and their associated workload.[21]

ECTS allows mobile students the choice to decide the location and duration of their academic mobility (Wagner, 2019:5-6). In addition, the transferability of credit allows recognition of ECTS across borders (Mizikaci and Arslan, 2019).

Regarding the scale and scope of the programme, the specific objectives of ERASMUS+ are to support education and training amongst young people in 34 countries through mobility opportunities. It includes various levels of education from school to higher education. Its budget reached 3.8 billion euros in 2020 and supported 640 thousand

[20] It is now called the Erasmus+ programme

[21] https://erasmus-plus.ec.europa.eu/

students from around 126,900 organisations (ERASMUS+). Its estimated budget for 2021-2027 is 26.2 billion euros 70% of which will be spent on mobility support. The rest is expected to support projects and policy development activities (ERASMUS+ 2021-2027).

In terms of degree mobility, delving into two types of mobility, Streitwieser (2014) notes that degree mobility generally occurs in countries that cannot provide prospective students with a sufficient number of high-quality institutions/programmes and uses Cyprus as an example. Kazakhstan can be another country that focuses on the degree mobility type. There, more than half of the young generation enrol on universities abroad due to the perceived quality of universities and the number of places in their home country. It is called vertical mobility, whereas credit mobility is called horizontal mobility, which is prioritized in terms of experiencing cultural, linguistic, and teaching differences. As mentioned earlier, Spain has been one of the top destinations to study in the Erasmus Programme because it supports credit mobility. This influx of Erasmus students is not matched by an outflow and vertical mobility which is relatively rare for Spanish students in comparison (Streitwieser, 2014; Lanzendorf and Kehm, 2010).

Carlson (2013:170 citing Gordon and Jallade, 1996) also distinguishes between two types of student mobility: spontaneous and organized. Spontaneous academic mobility specifies students who organise their degree study abroad based on their own choices and without depending on financial and structural assistance whereas, on the contrary, organised student mobility describes undergraduates or postgraduates who obtain their degrees through different programmes delivered by two or more institutions often under a partnership agreement or, in the case of the EU under the various programmes including Erasmus that supported student mobility.

Reviewing the literature on international student mobility, King et al. (2010) added a third type or form of mobility. Alongside diploma or degree mobility and credit mobility, King et al. (2010) added voluntary mobility which is characterised as temporary teaching jobs or language teaching assistance within a horizontal mobility framework (Jakubiak, 2016). It can be at different stages (internship, postgraduate taught/research, baccalaureate, and other qualifications) of study.

In summary, there are various types or forms of academic mobility. Contrary to the different types of mobility mentioned above, degree and organised mobility have been chosen in this study as the target form due to two reasons. First, although the number of Kazakh students with academic mobility experience is increasing (mentioned in the

introduction), most of them obtained their foreign degrees based on the Bolashak scholarship programme that organises financial and structural funds. Also, the programme focuses on graduates' experiences after obtaining their international degrees rather than their credits from foreign universities.

2.3.3 Figures and Facts on Outbound and Inbound Academic Mobility

This section focuses on students at higher institutions in general in different academic years. Also, the figures for outbound and inbound academic mobility for different years are shown. Furthermore, different sources are cited to show that there is not one agreed view on the outbound academic mobility of university students.

According to data provided by the Ministry of National Economics of Kazakhstan, the level of education of the population of Kazakhstan is relatively high and is approaching the level of the OECD member countries. Among the adult population aged 25 years and above, about 40% have secondary education as the highest level of education received, 30% have a college diploma, and 25% have higher education. Furthermore, the number of students at all levels in Kazakhstan is increasing (**Error! Reference source not found.**).

What stands out in the table is a steady increase in PhD students each academic year. Compared to the 2014-2015 academic year, 2018-2019 evidenced an increase of over 100% from 2063 to 4937. Also, bachelor and master levels have increased despite slight year-on-year fluctuations.

Table 2-1 University Enrolments[22]

	Academic Year				
Level Education	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Bachelor	477,387	459,369	477,074	496,209	479,914
Master	32,527	29,882	32,893	34,609	36,720
PhD	2,063	2,288	2,710	3,603	4,937
Total	511,977	491,539	512,677	534,421	521,571

[22] Analytical Report (2018)

Table 2-2 Number of Students Experienced External Academic Mobility[23]

	External Outgoing Academic Mobility of Students (N)								
Academic Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
Budgetary Expense	350	662	746	805	909	951	732	621	603
Extrabudgetary Expense	-	-	842	976	1,420	1,522	1,778	1,826	2,091
Total	350	662	1,588	1,781	2,329	2,473	2,510	2,447	2,694

According to the Analytical Report (2019) of the Ministry of Education and Science of the Republic of Kazakhstan (**Error! Reference source not found.**), there is an increase in the number of students who experienced external academic mobility through the award of Budgetary and Extra-budgetary expenses. Kelchevskaya and Shkavro (2002) define Extra-budgetary funds as a source of university development. In a situation where Budget financing only ensures the maintenance of an educational institution at the achieved level, all costs of expanding and diversifying educational activities can be reimbursed only through Extra-budgetary investments. Therefore, the issue of the formation and expenditure of Extra-budgetary funds is vital for universities (Kelchevskaya and Shkavro, 2002). The financial issues noted above are not the focus of this thesis however it is worth noting.

As can be seen from **Error! Reference source not found.**, at the early stage of joining the Bologna Process in 2011 and 2012, no student was financed through Extra-budgetary expenses; 350 and 662 students went abroad only through the Budget expenses. However, during 2011-2018, 5776 people were trained in foreign universities based on academic mobility programmes. Out of them, four thousand bachelors, 1771 masters, and five PhD students. However, during 2013-2018, 8364 students experienced external academic mobility at the expense of Extra-budgetary funds. Out of them were 7174 bachelors, 1157 masters, 29 PhD, and four residency training opportunities. Sources of funding for external outgoing mobility are students' self-funds, university funds, equivalent exchange with a partner university, funds of host universities, and various international grant programmes. The overall number of students sent abroad on academic mobility was 2447 in 2018 and

[23] Analytical Report (2019)

2694 in 2019. However, the student's own funds are the most common alternative source (46% in 2018, whereas in 2019, it increased to 51.9%) (Analytical Report, 2019).

According to Jumakulov and Ashirbekov (2016), The Ministry of Education and Science (MES) of Kazakhstan has acknowledged that national systems of higher education are not able to advance without taking into account global trends, technological progress and labour market demands; and to that aim, $200 million in 2011 (Sagyintayeva&Kurakbayev, 2013), 12.8 million US ($) dollars (Jumakulov and Ashirbekov's (2016), and $1.268.430 in 2018 (Analytical Report 2018) was allocated to academic mobility in Kazakhstan by the government. It covers mobility students' expenses such as travelling, living, and insurance.

However, holders of the grant can only study at the universities that signed agreements with their home universities because partnering with developed Western countries is challenging for Kazakh universities due to factors such as high living costs, expensive tuition fees, and language barriers. Owing to this situation, the government of Kazakhstan urges universities to partner with countries within the scope of the European Higher Education Area (EHEA), and managing this procedure is the universities' responsibility (Jumakulov and Ashirbekov, 2016). The number of mobile students with the Extra-budgetary expense has outnumbered Budget students for all the academic years, indicating that Kazakh universities try to fulfil their responsibilities to the Ministry of Education and Science.

In 2019, the leading European countries in the admission of students from Kazakhstan were Poland (457), Lithuania (120), Germany (102), Latvia (80), France (80), and the Czech Republic (61). However, amongst CIS countries, Russia annually ranks first in the admission of students within the framework of academic mobility: 362 (57.5%) in 2018 and 453 (67%) in 2019. The CIS countries after Russia that admit students from Kazakhstan are Kyrgyzstan (73), Belarus (128), Uzbekistan (12), and Azerbaijan (18).

Furthermore, internal academic mobility to Kazakhstan in 2019 shows a small increase compared to 2018 (681 in 2019 and 637 in 2018). Degree levels vary as such: bachelors (604), masters (68), PhD students (7), residency training (2). National universities have the highest rates of external incoming academic mobility in 2019 (301 students), State universities (85), corporate universities (118), international (11) and private universities (166). The CIS countries represent the most significant representation of those wishing to study at universities in Kazakhstan (303 people).

However, the number of international students that came to Kazakhstan on academic mobility from other countries is negligible. For instance, 90 students were from European countries, 52 from the USA, 205 from South Asia, and 31 from other nations (Analytical Report, 2019). The number of students from Western countries is very low, and it might be an indicator of the unwillingness of universities in developed countries to partner with less advantageous higher education institutions (Berry & Taylor, 2013) due to the shortage of personnel with international degrees and low level of English amongst faculty. For instance, many universities in Kazakhstan recruit master's students as teaching staff for undergraduates while completing their master's degree and only employ teachers with higher degrees to prepare for the review by the Ministry of Education that happens every three years. (Yergebekov and Temirbekova, 2012:1477). It consequently can lead to the unattractiveness of higher education for international students (Decree No. 460, 2018).

This section has attempted to briefly summarise figures relating to outbound and inbound academic mobility from and to Kazakhstan without being limited to degree levels. It started by providing a general level of education for the population and proceeded to a university contingent overall. It has shown the number of students with academic mobility since Kazakhstan joined the Bologna Process. Also, it concludes that the government needs to consider increasing the number of mobile PhD students and provide official statistics on them separately. Later, the finance allocated to promote academic mobility was mentioned for different years. Finally, popular countries for Kazakh students and international students were mentioned, where the CIS countries are in the leading position compared to other European and Asian countries.

2.4 Motivation to Study Abroad

The topic of motivations covers a wide range of literature. Therefore, the logic guiding the selection of literature in this section is explicitly focused on comparing and contrasting the motivations for international student mobility between developing and developed countries. Through this comparative analysis, insights are gained into the diverse factors that drive students to pursue educational opportunities abroad and identify potential disparities or commonalities between the two contexts. Additionally, the literature selection process considers the methodologies employed by the reviewed studies, ensuring that the chosen literature encompasses a range of approaches that contribute to a comprehensive exploration of the topic.

Studying abroad is seen as a highly valued event in students' lives (Glencross and Wills, 2006) because it allows them to immerse themselves in a different culture and provides what has been labelled as *a once-in-a-life experience* (Hetz et al., 2015, p.259). According to Gbollie and Gong (2020), their motivation to study abroad is mostly created by a passion for *knowledge*, *self-development*, *professional growth*, and *enjoyment* to obtain foreign higher education; while Beech (2015) identifies economic factors, personal development, the role of academic imperialism which reifies a Western education over that available elsewhere and to gather mobility capital.

International surveys play a crucial role in exploring motivations for studying abroad, engaging a diverse range of participants from numerous countries. For instance, the International Student Survey (ISS) has been conducted annually since 2015 to survey pre-enrolment international higher education students who have expressed an interest in studying out with their home country. It examines preferences in the choice of country and institution, what influences these decisions as well as information-gathering strategies and communication preferences.[24] Its latest survey available was undertaken in 2021 and had over 105,000 responses from 191 countries. As observed in the survey, more than half of the respondents indicated privileged future employment after returning to their homeland; and, working experience during and after their study in the host country as the primary motivators for them to study abroad. Other factors that motivate prospective and current students were experiencing the culture and the specific university brand of the host institution.

In contrast, from a developed country's perspective, the findings of Glencross and Wills (2006) are quite the opposite regarding international students' motivation. In their (*Ibid.*) study, employment was not seen as a major motivator to study abroad. For instance, Glencross and Wills (2006) reported that the percentage of respondents who indicated employment as the motivator for their study abroad in the survey was the lowest at 13.3 per cent. Whereas 53.8%, 43.8%, and 25.5% of the participants indicated experiencing culture, personal enrichment, and language study, respectively, as the main motivations to study in a foreign country.

The reason behind the opposing findings could be that both studies investigated the same issue from two perspectives, such as the developed and developing worlds. For instance, in the survey conducted by Glencross and Wills (*Ibid.*), 79 per cent of the respondents out of

[24] https://www.internationalstudentsurvey.com/about-us/

600 first-year students at the University of North Florida were primarily white Americans with diverse ethnic backgrounds. In contrast, the International Student Survey (ISS) (2021) included participants from developing countries such as Bangladesh, Nepal, Nigeria, Lebanon, and Indonesia. Based on the two studies, it can be noted that students from the developing world appear to be more concerned about their employment prospects than their counterparts from developed countries.

In another context, Findlay et al. (2010) conducted research between March 2008 and August 2009 to comprehend UK students' motivation to study abroad and their long-term career goals. Five hundred and sixty UK students responded to the surveys who were experiencing studying abroad in countries such as the US, Ireland, Australia, France, Germany, and the Czech Republic. The results of this research indicated that a *university ranking* (55%) and a *chance for a unique experience* (50.4%) were ranked as very important, followed by the *initial step towards an international career* (33.8%). This is again similar to the findings of Glencross and Wills (2006) regarding unique experience as the most influential factor for studying abroad among students from developed countries.

However, one interesting point to make could be that university rankings or brands and cultural experience seem to play a significant role for students from both developed and developing countries. For instance, although the two studies (Findlay *et al*., 2010 and ISS Survey, 2021) reveal opposing results regarding students' career-mindedness, both studies show that universities' rankings play a critical role for students from both developed and developing worlds in their decision to study abroad.

In line with the quantitative findings noted above, mixed-method research by Wu (2006), based on 30 Chinese graduate student interviews, two focus-group discussions that included 12 participants, and 169 survey participants, indicated that certain participants had *educational* and *professional purposes* for studying at British universities. Specifically, opportunities to improve their English in the native environment, superior and flexible teaching and autonomous learning modes were motivational factors for Chinese students in three UK universities, whereas the rankings of their universities and courses are strongly associated with their career potential.

Similarly, another qualitative study by Ehrenreich (2006) based on 22 semi-structured interviews with German language teaching assistants and students who worked in English-speaking countries revealed that mainly testing their *language teaching proficiency* and *experiencing culture* were the reasons to go abroad for the participants. Obtaining a PhD

and having work experience in one of the developed countries implicitly suggests that the participants in both qualitative studies were motivated by the employment factor to study abroad.

Furthermore, researchers have examined less influential factors that contribute to students' motivation to study abroad across various contexts. For instance, less influential factors than those mentioned above, *preferred training courses* (24.1%), *study fees* (18.6%), and *family encouragement to study abroad* (11.6%) were the minor influential factors for UK students (Findlay *et al.*, 2010). Similar findings on less important but still influential factors were also reported in the ISS survey (2021) and by Glencross and Wills (2006). For instance, students from developing countries chose *limited education opportunities in their home countries* (ISS survey, 2021), whereas *learning specific disciplines in particular localities* (16.7%) (Glencross and Wills, 2006) were the least frequent reasons noted by participants from developed countries. Also, prospective students from the Middle East mentioned *family and/or friends* as the least influential (Guthrie, 2019).

Guthrie (2019) reveal completely opposing findings to Glencross and Wills (2006) and Anderson *et al.*'s (2015) findings. For instance, one can see that in the Glencross and Wills, (2006) and Anderson *et al.*, (2015) studies obtaining a work visa was not the priority among US students. However, in the study by Guthrie (2019), prospective Northern American and Northern European students mentioned this factor as the most influential factor for their study abroad. This trend is similar to Southern American, Southeast Asian, Middle Eastern, and Western European students. They chose employment opportunities as one of the top three influencers for their study abroad.

Furthermore, these trends seem to be confirmed by studies with mixed-method approaches (Nghia, 2019; Gbollie and Gong, 2020). While Nghia (2019) explored academic mobility flow from Vietnam (a developing country) to the US, UK, and Australia, Gbollie and Gong (2020) investigated African and Asian students' decisions to study in Chinese universities and mobility flow between developing nations. For instance, in addition to experiencing foreign cultures and career advancements after return, certain Vietnamese students are motivated by building possible business partnerships for their planned careers (Nghia, 2019). They are also motivated by improving their foreign language proficiency and by the value of international education from countries such as the US, UK, and Australia.

On the other hand, Gbollie and Gong (2020) explored that grant availability, liberalisation of visa procedures, and prestige of universities and programmes motivated certain African

and Asian students to study in China. Both studies attempted to explore the motivations of mobile students to study abroad, and Gbollie and Gong (2020) investigate the opposite flow compared to Nghia (2019). However, both papers do not distinguish the participants according to their degrees, and it would have been more specific in terms of the participants' motivation if they analysed the results of participants separately according to their degree levels.

To conclude, a comparative analysis uncovers both variations and commonalities in the motivations of students to study abroad, considering the contexts of developing and developed counties. For students coming from developing nations, the primary drivers for pursuing international education include the prospects of better employment after returning to their home countries, as well as gaining work experience during and after their study abroad. In contrast, students from developed countries are more influenced by factors such as the opportunity to experience different cultures, personal enrichment, and language acquisition. Nevertheless, it is worth noting that university rankings or reputations play substantial roles for students irrespective of their country of origin. Interestingly, the least influential factor is family encouragement for students from both developed and developing worlds, which may suggest most mobile students are self-motivated regardless of their homeland.

2.5 Conclusion

This section briefly reviewed Kazakhstan's main policies and strategies toward the internationalisation of higher education. As can be seen, joining the Bologna Process positively affected the system of Kazakh higher education and the mobility trend of students. Furthermore, Nazarbayev University was another strategy for internationalising higher education and turning Kazakhstan into an educational hub in Central Asia. However, Bolashakers' impact on internationalisation needs further attention as it is still unclear whether the thirty-year investment (Bolashak) in human capital is effective in terms of the internationalisation of higher education or whether the investment is failing to meet expectations resulting in brain drain.

Furthermore, the brief comparative analysis shows that differences and similarities can be observed in the motivations of students to pursue overseas education, taking into account the specific circumstances of both developing and developed nations. There is an imperative need to conduct a comprehensive exploration of the factors that drive student motivation to study abroad in Kazakhstan, as this investigation holds the potential to unveil

the origins of emigration aspirations among PhD graduates. The following chapter considers the views on the effect of external academic mobility on the home country, higher education institutions, and graduates themselves.

3 Possible Positive and Negative Manifestations of Academic Mobility: Brain Gain, Brain Drain, and Brain Circulation

3.1 Introduction

Studies conducted over the past two decades have provided valuable insights into the internationalisation of higher education. Academic mobility, although not a novel occurrence, is widely acknowledged as an important facet of internationalisation, constituting a broad and substantial subject of study (Scott, 2015). While some argue that academic mobility serves as an initial step towards emigration (Trembley, 2005), leading to brain drain (Knight, 2017), others have found evidence supporting its positive impact on source nations, resulting in brain gain (Hunger, 2002; Lee and Kim, 2010; Altbach et al., 2012; Yuping and Suyan, 2015). Additionally, proponents such as Saxenian (2002) assert that both sending and receiving countries can benefit from the migration of intellectual emigrants.

Regarding brain gain, this chapter attempts to examine both the positive influence of academic mobility and barriers to its realisation on three aspects such as home country, higher education, and individuals themselves. By conducting a comprehensive review of research pertaining to full-degree mobility within academic programmes, with a specific focus on the period between 2006 and 2016, Mawer (2018) categorises these levels into three distinct categories: macro, meso, and micro, respectively. Next, the brain drain issue, which represents a negative aspect of academic mobility, is explored from various perspectives (Ansah, 2002) along with the underlying factors that drive emigration. Following that, the final section of this chapter delves into the phenomenon of brain circulation (Saxeninan, 2002), examining the movement of highly skilled individuals between sending and receiving countries.

The primary objective of this chapter is to generate potential responses to the research questions through a comprehensive exploration of the three manifestations of academic mobility. To achieve this, the study takes into account perspectives derived from research conducted in both developed and developing nations. Furthermore, in order to select the literature reviewed in this chapter, careful consideration was given to a variety of methodological approaches and contexts, both similar and distinct. This approach was adopted to enhance the comprehensiveness and objectivity of the study's findings.

3.2 Brain Gain

While brain drain concerns are valid, it is important to recognise the potential for brain gain, which presents a contrasting viewpoint on the impact of intellectual emigrants. For instance, Hunger (2002, p.1) argues that despite the stark differences in living standards between developed and emerging countries, which build forcing pull and push factors for talented and educated people, this is not the ultimate *dead end* causing the economic and social crises in emerging nations. Hunger (2002) emphasises that every brain drain actually holds the potential for a brain gain and the key issue is how to successfully realise this potential (p.15). Before delving into the positive influence of returned PhD graduates and strategies used by other nations to pursue brain gain, it is essential to first provide a precise definition of the term.

According to Jałowiecki and Gorzelak (2004), brain gain was developed as a concept in the 1990s, and it describes actions that aim to lure scholars from one country to another. It differs from the concept of brain drain in that brain gain is the result of intentional and planned attempts of different universities or countries to attract scholars and intellectual emigrants to the countries concerned. To that aim, certain countries attempt to attract scholars or specialists irrespective of their nationality by offering work permits and proposing accreditation and immigration regimes for foreign-trained professionals to fill the gap in job markets in the host countries (Mahroum, 2005) (also see pull factors in the section on brain drain). A study by Matthews and Lord (2017) exemplifies this phenomenon, highlighting how international PhD students in US universities contribute rigorous training, work ethic, and interdisciplinary innovation to diverse research fields. Scott (2015) further underscores the significance of foreign-born staff for academic capacity in countries such as the United States, the United Kingdom, and Western European nations, particularly in scientific and engineering disciplines. However, the current study does not delve into this type of brain gain.

Instead, this study examines the phenomenon of brain gain from the perspective of source countries, with a specific research focus on Kazakhstan as an emerging nation. For instance, some authors (Yuping and Suyan, 2015; Heitor et al., 2014; Lee and Kim, 2010; Chen, 2009) have investigated the return option from the perspective of graduates who pursued knowledge abroad and subsequently returned to their home countries. The literature reveals that the return option encompasses different types of returners: firstly, delayed returners who resided in the host countries for a period before returning, and

secondly, those who promptly returned upon completing their studies. However, the delayed returners exhibit similarities to those identified in Saxenian's (2005) study, which describes the movement of intellectual emigrants who either continued their careers abroad or left their countries in pursuit of a better life and subsequently returned to establish professional networks while maintaining foreign professional connections. The concept of brain circulation will be discussed in greater detail in the following section.

3.2.1 Influence on Home Country and Barriers to Its Realisation

The influence of postgraduate and early career researchers on their home countries' research productivity and development is significant in both developed and developing countries. These individuals play a crucial role in advancing research and driving innovation (Smith et al., 2010). Notably, the Research Assessment Exercise (RAE) (2008) in the UK and the UK-wide investigative report conducted by Smith et al. (2010) on the benefits of postgraduate study in the UK for the economy, tertiary education sector, and individuals highlight the profound influence of early career researchers on research development in leading countries. In less developed countries, so do returned PhD graduates play a crucial role in transferring knowledge and expertise gained from their studies abroad to the local context (Velema, 2012; Singh and Jamil, 2021).

There's evidence to suggest that they contribute to the development of research capacity in various fields within the country. An example of this is Maxwell and Chophel (2000) of who followed 80 returned PhD graduates from Bhutan. The study found that these PhD participants demonstrate a proactive approach by coaching their less experienced colleagues in research and other professional skills, including academic writing. The research also reveals that the positive influence of returned PhD graduates on national reputation and global recognition is attributed to their active involvement in networking and research activities both within and beyond their academic institutions. This article was chosen as a reference due to the similarities found in the educational contexts of Bhutan and Kazakhstan. While Bhutan is transitioning from an Indian-based tertiary education curriculum to a tailored framework, Kazakhstan is moving away from the Soviet-style system of education.

Furthermore, based on multiple data sources gathered from Taiwanese universities and Taiwan's National Science Council, Velema (2012) notes that the system of Taiwanese science is linked to global research network collaborations, primarily by scholars with

foreign degrees transferring knowledge and skills to their home country and by maintaining co-authorship connections with scholars in the US. When comparing scholars with local and international graduate degrees, the author (*Ibid.*) found that the former was hardly associated with research activities internationally, whereas the latter could link the Taiwanese and international research activities to develop the academic community in Taiwan. One of the reasons for the system orientation to US science could be the result of grants provided by the Taiwanese government in the 1970s to study in the US and various grants offered by leading US universities to Taiwanese students (Zhang, 2003). Accordingly, returned experts between the late 80s and early 90s contributed to industrialising and democratising Taiwan resulting in the quick development of scientific equipment and an increased number of cabinet of ministers with American PhD degrees (Chiou, 1994 cited in Zhang, 2003:93).

In addition to scholarships, the Taiwanese government put a great effort to lure back its educated citizens by providing career opportunities in research centres, universities, and public programmes, and improving the quality of life (Gold, 1998 cited in Zhang, 2003:92). This can be considered a productive effort to integrate returned scholars into society to develop the country of origin because just sending young intellectuals abroad to study and expecting a massive return from them is not enough. This policy approach, as observed in the Taiwanese context, played an important role in Taiwan's industrialisation and democratisation processes (Zhang, 2003; Velema, 2012). Likewise, Lee and Kim (2010) substantiate this perspective within the South Korean context, highlighting the successful development of human resources in South Korea. The country achieved notable strides towards industrialisation by strategically encouraging its citizens to pursue studies in developed nations and subsequently return (Lee and Kim, 2010).

In order for source countries to reap the benefits of brain gain it is essential to consider not only governmental policies and strategies aimed at attracting talented individuals back, but also the domestic and institutional factors that influence the contribution and career opportunities of returnees. It is important to note that a higher rate of return does not automatically equate to a higher quality of brain gain (Namgung, 2008 cited in Ma and Pan, 2015, p.307). Thus, unless home countries offer financial support to return postgraduates and create favourable research and work environments, no country is immune to the challenges posed by brain drain (see Sections 3.3). For instance, Russia experienced an outflow of scientists in the early 90s, and Germany and Israel received the majority of them in 2000. This outflow happened due to reduced science and technology

areas that negatively affected the salary of scholars and the deterioration of job conditions in the area (Solimano, 2008). Eliminating barriers to re-integration and providing strategic support as exemplified above is likely to ease transferring of international (Western) knowledge and expertise.

With different research approaches and in different contexts other studies confirm that the effectiveness of the influence exerted by returned PhD graduates or brain gain may be limited because of the absence of adequate strategies, contingent upon a range of factors, such as low salaries (Marini, 2019), obstacles to progress in their career (Delicado, 2011), or even the poor-quality systems to protect intellectual property (Zhao, 2006). For instance, in a study conducted by Delicado (2011) and funded by the Portuguese Foundation for Science and Technology, a mixed-method approach was employed to examine the career experiences of 521 Portuguese PhD graduates who obtained their degrees abroad. The findings reveal that a majority of mobile doctorates are situated in EU countries (64%) and the US (27%). The rest, 5%, are in other non-European Union countries. Ninety-three per cent of the participants indicated that their home country had a lack of resources, including lab tools and funding compared to the receiving states.

Additionally, the next stage of the research of Delicado (2011), interviews, was conducted from May until November of 2008 with 32 Portuguese foreign PhD holders who were chosen based on requirements such as research field, host country, and employment situation revealed that returned postgraduates have difficulties in integrating into research due to the limited employment possibilities. For example, it was stated that PhD graduates with foreign degrees were less likely to be appointed to a higher position than graduates with local degrees because the locals had existing connections or had already worked with someone in Portugal previously. In some instances, even high-quality academic outputs and connections with leading foreign scholars in the field did not aid employment for those with international degrees, with some receiving no employment offers at all (Delicado, 2011). As a result, returned PhD graduates may fail to influence their home country to prosper in various fields.

As noted, although the author (*Ibid.*) found certain negative effects of academic mobility on the home country due to limited resources and limited fair competition amongst local and returned PhDs, one cannot say that the situation in the Portuguese context is unfortunate. The reason for that could be the fact that around 80% of Portuguese scholars with foreign doctoral degrees awarded from 1970 until 2006 are working in the system of

Portuguese science, and their number is increasing as a result of increased research funding and post-doctoral grants provided by the government (*Ibid.*). Interestingly, the transition of the state to democracy began after 1970, and scholars and students were directly involved in this change. This transformative shift turned universities into a diplomatic platform and a catalyst for facilitative socio-economic advancement within the nation (Lima, 2011). This may suggest that a high number of scholars with foreign degrees can play their part to influence government policy positively.

Additionally, by taking on leadership or decision-making responsibilities inside organisations or movements, returned PhD graduates can use their knowledge to spark and promote socioeconomic transformations (Boeren, 2018, p. 48). They play a crucial role in encouraging policy development, and collaboration, and ultimately driving socioeconomic change through their capacity to influence policy decision-making through institutional and inter-organisational communication channels (Krannich and Hunger, 2022; Shen et al., 2022; Mawer, 2018). For instance, using a sequential mixed-method approach, Paige et al. (2009) examined the effects of study abroad on 6391 alumni's professional and personal development who studied in Australia, Europe, and Asia and discovered that 55.4% of research participants took the lead in enhancing quality of life, whereas 44.8% engaged in organising events or signing petitions. The qualitative part of their study revealed a profound transformation in the perspective of one participant, not only regarding their personal life but also their local community and the broader global context. These transformations and engagement in domestic civic activities may serve as indicators of the potential influence of external long-term academic mobility on socioeconomic transformations in home countries.

Wilson (2015) outlines two ways that PhD holders who have returned to the workforce can exercise greater influence: securing high office or *elite multipliers*[25] and wielding a disproportionate influence on public opinion as journalists, public personalities, or educators (p. 27), which is a *bottom-up* approach (Raetzell et al., 2013 cited in Mawer, 2018, p. 271). The latter is demanding and may take longer to materialise due to the systemic nature of organisational decision-making, which is primarily carried out by entities such as government ministries. Nevertheless, while certain returned PhD graduates possess the potential to shape the social and economic development of their home country

[25] Wilson (2015) uses the term elite multipliers to describe alumni who become disproportionately powerful, for example, being elected to high office or holding top civil service positions (p.27).

directly or indirectly (Mawere, 2018), their influence is constrained by unfavourable work environments in developing countries characterised by inadequate technological support and gender-based barriers impeding their professional advancement (DAAD, 2013), thereby limiting returned PhD graduates influence on political and socioeconomic transformations upon their return.

This section provides an academic review on the contributions made by returned PhD graduates in terms of capacity building, through knowledge, sharing their impact on the advancement of research, innovation, and political and socioeconomic transformations upon their return. Furthermore, it highlights notable forms of support and potential barriers encountered in different contexts. The following sub-section examines the influence of returned PhD graduates on higher education institutions at the meso level.

3.2.2 Influence on Higher Education Institutions

Academic mobility is considered essential for universities because it can promote the transfer of knowledge internationally and strengthen higher education institutions' reputations (Tzanakou and Behle, 2017). However, in the new global economy, the impact of PhD graduates with foreign degrees on higher education is understudied, particularly in Kazakhstan, one of the central Asian countries. The following section considers the positive and negative effects of long-term external academic mobility of PhD graduates specifically on higher education. Also, the factors that prevent PhD graduates from working at higher education institutions are discussed. The literature selected for this section directly pertains to the research objective, focusing on the experiences of returned PhD graduates. These reputable sources offer valuable insights and empirical evidence that substantiate the research findings. Their selection is based on their methodological alignment with the present study, ensuring continuity and applicability.

Bilecen and Mol (2017) argue that international mobility can benefit both people and institutions of higher education by exchanging knowledge and skills, thus advancing intercultural understanding. Lee and Kim (2010) carried out an exploratory investigation on returning academics using in-depth interviews with 12 Korean professors who possessed US doctorate degrees in diverse fields and had returned to South Korea. They found that some universities in South Korea are oriented nationally and internationally. For example, they saw their university as having a global perspective through strengthening

ties with the US and other countries and continually meeting with foreign colleagues at international conferences and research universities.

As the number of returned PhD holders increases, the employment criteria in home universities may improve. Accordingly, there is a high probability that this will directly affect the quality of teaching and research in home universities. This is exemplified in the mixed-method research undertaken by Wang *et al.* (2015) at Huan Shan University, China (a neighbouring country of Kazakhstan that is experiencing rapid development). Their results indicate that candidates with higher research potential (thesis and research papers) are more likely to be offered positions, whereas the majority of PhD interviewees articulated analogous "it could be my research potential" (p.780) as the reason for their employment in higher education. This is confirmed by management who noted that they pay careful attention to whether the applicants participated in research conferences because "a good teacher is not necessarily a good scholar" (p.779). These results imply that quality research competence learnt abroad may positively affect home universities' teaching and research quality by improving employment criteria. However, within the context of Kazakhstan, it poses a challenge to locate an empirical study that specifically utilises a mixed-method approach to investigate the impact of returned PhD graduates on Kazakh universities and their contributions in terms of international research collaborations and knowledge exchange.

A high number of PhD holders trained abroad can also positively affect less advantageous institutions due to limited places in leading universities in the context of origin. For instance, Delicado's (2011) mixed-method study shows that the number of returned Portuguese doctorates is increasing in lower-ranking Portugal higher institutions, private colleges, and government-operated labs as elite universities cannot provide them with a place. To be specific, the number of returned PhDs working in private universities more than doubled between the 1970s and 2006, whereas in polytechnics their number increased tenfold. This number may suggest that an increasing number of returned PhDs may result in increased competition that may result in improving the faculty quality of less competitive universities in the country of origin.

Alternatively, not all the literature adopts a positive stance concerning the impact of academic mobility on home universities (Douglass & Edelstein, 2009; Cao, 2008; Shen et al., 2016). Shen *et al.* (2016) carried out a cross-national analysis on the effect of internationally mobile PhD students in China and reported participants expressing

discontent about academic mobility. For instance, a Professor of Engineering reported the 'best' PhD students were leaving China in favour of the US and Europe in pursuit of degrees, and as a result, supervisors are required to lower their demand for PhD students and as a result, engage less qualified PhD students in their projects. Additionally, not many returned PhD graduates are eager to work in higher education, due to various factors, including poor salary, limited employment opportunities, uncertainty in relation to long-term career progression in higher education, and bureaucracy (Schwabe, 2011; Delicado, 2011; Martinez and Pepler, 2000; Van de Weijden et al., 2016).

These factors may impede returned PhD graduates to work in academia that are likely to affect faculty quality. In support of this objective, Schwabe (2011) references Statistics Austria (2007) to demonstrate that in Austria, the majority of individuals possessing a doctoral degree (41%) are occupied within the business sector, whereas 23% are engaged in state sectors. Notably, only a minority of doctorate holders, specifically 25%, elect to pursue careers within the realm of higher education. Furthermore, 68% of researchers with PhD degrees are employed outside of higher education. These results suggest that university managers should focus on addressing internal factors that may hinder brain gain at the university level. The goal should be to enhance internal factors that facilitate the attraction of more returned PhD graduates, thereby fostering increased competition among faculty in higher education.

However, the situation in China does not seem to be intimidating because even though many prospective PhDs are leaving for foreign (Western) education as previously noted, the number of returned PhD graduates is increasing. Specifically, in the higher educational context, Shen *et al.* (2016) indicate that Shanghai Jiao Tong University experienced an increase in the number of academic personnel with foreign PhD degrees from about 6 per cent to almost 22 per cent between 2006 and 2013, whilst those who decided to stay abroad have continuously contributed to higher education in China through training PhD students located in China (p.346) and collaborative research with local Chinese scholars in terms of teaching or lecturing that was initiated by the Chinese Academy of Sciences (Zweig et al., 2008, p. 15). The last type of contribution is related to the concept of brain circulation, which is discussed in more detail in a section dedicated to that theme.

3.2.3 Influence on Graduates

Although there is evidence that academic mobility plays a crucial role for students to improve both their academic skills and private lives (Wiers-Jenssen, 2003) and acquire knowledge assets (Munk, 2009); Tzanakou and Behle (2017) believe that the applicability of their skills to secure and progress in their career has not been investigated as much as one would expect due to a lack of coherence in the classification and enumeration of 'skills'. Additionally, research on the relationship between academic mobility and graduates' employability is limited both in Europe and globally (Flander, 2016). Therefore, it attempts to comprehensively examine the influence of academic mobility on graduate skills and employability after graduation. Although this study focuses on a developing country, Kazakhstan, this examination considers perspectives from both developed and developing nations, aiming to provide a holistic understanding of the influence of academic mobility on graduates' experiences.

Tzanakou and Behle (2017) categorised the skill acquired through academic mobility into specific and general categories. Specific skills include language proficiency, research abilities, and critical thinking skills. On the other hand, general skills encompass working in a team, presentation skills, and cultural communication in different contexts. These general skills are sometimes referred to as soft skills (Auriol, 2010) or transferrable skills (Van der Weijden *et al.*, 2016). Furthermore, a mixed-method research study conducted by Siemers (2016) to explore the effects of academic mobility of international students with diverse educational backgrounds concludes that graduates who have experienced academic mobility develop important skills in the areas of interpersonal communication, language proficiency, and networking. Additionally, the research highlights the enhancement of graduates' self-efficacy, encompassing attributes such as confidence, adaptability, problem-solving abilities, organisational skills, and reflective thinking (Siemers, 2016 , para. 50). For instance, one participant expressed a sense of personal growth, noting that their academic mobility experience allowed them to be true to themselves rather than forcing them to change who they were (para. 37). This suggests that academic mobility can empower individuals to embrace their authentic identities and values, fostering a sense of self-actualisation and personal development.

In the realm of academic inquiry, the need for additional specific examples from both developed and developing countries become apparent in order to enrich the scholarly discourse at hand. For instance, Tzanakou and Behle (2017) examined the experiences of

twelve British and European mobile graduates with UK degrees. Seven of the participants were European movers (including British citizens), whereas the other five include European graduates who returned to their country of origin. Based on semi-structured phone interviews with the participants who have various background knowledge from the science of nature to human society studies, they (*ibid.*) conclude that graduates gained personal and social development and improved their cultural and academic skills by studying in the UK. These included improved research, language, and critical thinking skills in addition to advanced subject-specific knowledge. For instance, two European participants spoke of how UK higher education taught them to research and present information, an aspect they considered crucial to their current careers. Equally, another two graduates emphasised the importance of different cultural experiences while studying at a UK university; it was considered helpful to work in a multicultural environment (p. 1387). Zimmermann and Franz's (2013) longitudinal study with 1134 students that aimed to examine the impact of international academic mobility on students' personality change confirms Tzanakou and Behle's (2017) findings regarding personal development. Zimmerman and Franz (*Ibid.*) note that the socialisation process during academic mobility promotes students' personal development.

Furthermore, these positive effects are echoed in the findings of Sisavath (2021) in the Lao context. He (2021) obtained 163 questionnaire responses and 19 interview data based on his explanatory sequential mixed-methods design, which aligns with the research design employed in this study. According to his (*ibid.*) findings, graduates with academic mobility experience develop their skills such as employability, interpersonal, critical and analytical thinking, and problem-solving through frequent engagement in various academic and cultural initiatives organised by the host universities. In terms of employability, participants emphasised that their academic mobility experience developed their ability to work with foreign as well as local co-workers in different professional contexts (p. 559).

This argument finds support in the scholarly work of Netz et al. (2020), whose systematic review encompassed an examination of 96 empirical studies published from 1994 to 2019. The study under scrutiny explored the implications of international mobility on the professional trajectories of scientists. Netz et al. (*Ibid.*) posit that academic mobility yields favourable outcomes by enhancing individuals' occupational circumstances and fostering heightened levels of job satisfaction. Moreover, their findings indicate that scholars with international experience are more prone to securing funding upon their return. This

observation suggests that various funding agencies recognise academic mobility as a valuable experience that signifies an individual's aptitude for a career in academia.

Similarly, in their introductory editorial, Bilecen and Mol (2017) note that students studying abroad are exposed to a variety of intellectual societies with different socio-cultural norms; in this way, they are more likely to develop their reputation and professional integrity - skills highly valued by managers in the labour market. Nevertheless, one can agree that delineating a comprehensive set of employability skills proves challenging due to the varying labour market demands across developed and developing countries (Sisavath, 2021). For instance, networks of acquaintances and close friends are reportedly more significant than other abilities or skills in Kazakhstan for landing the first job following graduation (Tolesh, 2022), whereas the study with a 36% response rate from 2000 companies in Finland reveals that over half of company managers considered academic mobility experience as not essential when accepting new employees because they were more concerned with the local market (Flander, 2011). However, another major study interested in the same issue but in the Swedish context reveals a positive view on academic mobility. The study had a 21% response rate of 4764 Swedish companies. For vacant positions in their companies, employers chose candidates with international academic experience over those without such experience (p.98).

Likewise, although students obtain skillsets during international academic mobility, Tzanakou and Behle (2017) found cases in the EU countries where graduates with foreign degrees experienced inequalities and unfavourable situations in terms of employment and further study compared to their local counterparts when they returned. For instance, one participant's postgraduate degree was considered equal to an undergraduate degree upon her return, whereas another participant noted that she does not even think to return to her home country because of her failure in job interviews and the mismatch between the foreign degree and the local job market system. Although this may have been the result of negative perceptions in local employment markets towards foreign degrees and/or local employers' insufficient knowledge about the quality of degrees outwith their local context (Flander, 2011), the findings of Tzanakou and Behle (2017) must be approached with some caution because the authors fail to provide information on how the participants' job interviews had taken place. Providing these details would have been more persuasive in why the participant failed to obtain a job position and have been able to provide information on whether the participant's soft skills were enough to land a job locally.

Furthermore, issues about the recognition of students' degree qualifications in the labour markets are complex (Knight, 2012). In terms of employment, it is evident again in Brooks *et al.*'s (2012) paper that a degree from outside the country can impede job expectations for some people. In the study, examples are provided where holders of US or South African degree qualifications were questioned about the quality of their degrees compared to UK awards. Similarly, regarding the Norwegian context, the findings of a quantitative study by Wiers-Jenssen (2011) also suggest that the employment prospects of graduates in Norway with foreign degree experience are challenging (Wiers-Jenssen, 2011).

These different and opposing findings reviewed here suggest that external academic mobility affects graduates' employability in different ways depending on developed and developing economic contexts. For instance, Tzanakou and Behle (2017) investigated the issue from developed countries' perspectives, whereas Sisavath (2021) approached the question in the context of Lao, which is one of the poorest but rapidly growing Asian countries (The World Bank, n.d.). Even though they provided opposing results regarding employment perspectives of mobile graduates, both studies and others (for example Wiers-Jenssen, 2011; Tolesh, 2022) emphasised the positive effects of academic mobility on graduates' academic and personal skills. However, Sisavath (2021) was more detailed in terms of clarifying that the specific skills graduates acquired during their studies overseas were frequently applicable in their work context. These included: teamwork in multicultural contexts, academic oral and written communication in foreign languages, research, and problem-solving skills (*ibid.* p. 561).

This section's literature review was specifically compiled to contrast how academic mobility affects graduates' skills and employability in developed and developing countries, which are quite distinct situations. The literature in this area was chosen based on its applicability to the current study, taking into account how well it aligned with the research approach used. Additionally, preference was given to studies whose research subjects shared characteristics with the participants in the current study, i.e., those who had engaged in academic mobility and then returned to their country of origin. Given that it would be interesting to investigate the influence of academic mobility on returned PhD graduates, their skills and career advancement in Kazakhstan. Moreover, it would be worthwhile to explore the influence of academic mobility on students too to learn about what challenges and benefits they experience while pursuing their education, and it is covered in the following sub-section.

3.2.4 Influence on Students

Furthermore, some authors have mainly been interested in questions concerning the impact of external academic mobility on students during their study overseas. For instance, qualitative data obtained from two individual focus groups by Bradley (2000) shows that not all international students in the UK feel comfortable adapting to higher education in a foreign country. The first focus group included students and supporting personnel from 11 states, while the second included local students. Some international students faced mental health problems as they attempted to adapt to academic pressure, accommodation, loneliness, and a different social life. One student reported initial excitement that later became sadness; equally, another student expressed feeling isolated because of her style of dress and culture. Akhtar and Kroner-Herwig's (2015) quantitative study that included 652 international students in German universities echoed similar results: the main causes for the stress of international students are unaccustomed environment, leaving behind close people in the country of origin, and incapability of new social relations to compensate for the loss of existing close personal and cultural ties in their home country.

The researchers investigating international students' concerns have tended to utilise either quantitative or qualitative approaches, with their findings revealing similar outcomes. However, a large exploratory mixed-methods (N=1288) study by Gu et al. (2010) is also supportive of the findings of Bradley (2000) and Akhtar and Kroner-Herwig (2015). For instance, half of the survey participants felt no emotional connections with the host community, while 63 per cent found it difficult to interact with UK students in both academic and social settings.

Additionally, according to Westwood et al. (1986, p. 222), international students not only experience culture shock - a topic widely reported on in the literature (Belford, 2017; Alloh, 2018; Huang, 2014), which serves as an essential step for foreign students to adjust to the new culture, they also risk facing 're-entry shock'. This shock is often experienced when a student does not predict any difficulties related to adaptation when they return to their home country.

Nevertheless, it is evident that students who have undergone such an experience can face the future with a sense of assurance and self-assurance. For instance, a comprehensive analysis of 87 journal articles investigating the experiences of international students in UK universities from 2000 to 2012, conducted by Lillyman and Bennett (2014), indicates that

studying abroad offers numerous benefits to international students. These advantages encompass opportunities for cross-cultural interaction, enhanced confidence and academic responsibility, the cultivation of independent thinking, and the development of intercultural competence. Moreover, these gains contribute to improved employability, expanded professional prospects, and potential for assuming leadership positions. The transformative impact of the experience extends to students' self-perception, worldview, and language proficiency, shaping these aspects of their perspectives for the entirety of their lives.

Considering all this evidence in the three sub-sections, one can see that the role of PhD academic mobility is huge and plays a significant role at all levels: country, institution, and individual. Also, all the levels are interrelated. For instance, the quality of academic mobility at the individual level may positively affect institutions by improving research productivity that consequently can impact the economy of countries. However, as we have seen that there may be negative impacts at the national, institutional and individual levels unless a strategic approach is taken towards academic mobility. The issue of brain drain can be one of them, and this is discussed in the following section.

The context appears to be a significant determining factor in the achievement of brain gain through the return of PhD graduates at the national level. As exemplified in the earlier sub-sections, despite the government initiatives or support for mobility, its socio-economic return may be insignificant unless further actions are taken such as increasing salaries, eliminating various obstacles in the way of returners, providing resources or opportunities for doing research, and guaranteeing intellectual property rights. These are evidenced mostly in developing contexts. Furthermore, strategically integrating the returners and fostering brain gain through fair competition may impact industrialising and democratising the society, as evidenced in the different contexts.

Regarding the effect on higher education, many researchers (Tzanakou and Behle, 2017; Bilecen and Mol, 2017; Lee and Kim, 2010; Wang *et al.*, 2015) in the section argue that the academic mobility of PhD graduates can benefit higher education too by transferring or exchanging knowledge and skills through research collaboration, lecturing, and partnerships between source and host nations. Furthermore, an increased number of returned graduates may positively correlate with an increase in employment criteria at higher education institutions. Consequently, it may affect the quality of teaching and research potential of universities (Wang *et al.*, 2015). All of these seem to ignite

competition between universities in developing and developed countries (Lee and Kim, 2010).

Lastly, the effect of PhD mobility on graduates themselves cannot be ignored as they are the main players in the process. At the individual level, this section considered the issue from the perspectives of advanced and developing nations and from the perspectives of companies and higher education institutions. Furthermore, various studies with different methodological approaches were considered. As one can see, in various contexts and at different stages of academic mobility, those who experience international academic mobility may face numerous challenges varying from employment and career progression after graduation to mental health and academic pressure during their studies abroad. However, there is a noticeable need for more research to be carried out delving into the effects of external degree mobility on the country, higher education, and postgraduates specifically in the context of Kazakhstan.

3.3 Theorising and Defining Brain Drain

Due to the critical importance of highly skilled employees to national, organisational, and individual success, the historical migration of highly skilled people, dating back to the Greek philosophers, has assumed increasing significance in today's global and competitive economy (Ansah, 2002). According to Scot (2015), brain drain remains the prevailing characteristic of academic mobility due to hegemonic internationalisation[26] and the reliance of American and European scientific communities on the inflow of highly qualified academic professionals from abroad (p. 55). Although the centre-periphery paradigm has faced challenges through research on brain drain that encompasses certain developing countries alongside the global North (Ansah, 2002; Jalowiecki and Gorzelak, 2004; Khilji et al., 2015), the phenomenon continues predominantly benefit North America and Europe (Scott, 2015). This is attributable to a range of pull and push factors (Bezuidenhout *et al.*, 2009; Kopecká, 2013; Vervekin, 2017; Simakova, 2019; Lam *et al.*, 2011), which serve as widely employed classifications in the examination of intellectual emigrant migration (Latukha, 2022).

In his theoretical analysis of the brain drain phenomenon, Ansah (2002) delves into the migration of skilled individuals from developing to developed countries. He examines three perspectives – nationalist, internationalist, and globalisation – to understand the

[26] It refers to the flows from the ‘periphery’ to the ‘core’.

dynamics at play. The nationalist model criticises brain drain for benefiting recipient countries at the expense of emerging economies, emphasising the pull factors, and overlooking the unfavourable domestic conditions (push factors) that hinder the cultivation and retention of professionals. Nationalists advocate for the generation and utilisation of human capital within each nation. However, this practice has the potential to incite student protests and has resulted in the emergence of an illicit market facilitating the recruitment of individuals for overseas employment opportunities (p.22-23). Instead, it is imperative to grant scientists and scholars the freedom to engage in global mobility, as such mobility does not undermine the scientific system. In fact, scientists have the most impact when they are provided with the flexibility to cross international boundaries for the purpose of research collaboration (Sugimoto, 2017).

Furthermore, as a remedy for brain drain, internationalists suggest training replacements for emigrants, but this strategy falls short because replacements frequently depart as well and provide no practical remedies. Ansah's (2002) globalisation model supports the circulation of intellectual resources among countries, emphasising the promotion of academic exchanges. However, it lacks measures to retain intellectual emigrants in donor countries. Addressing this gap would enhance the perspective (p.23). Ansah (2002) further suggests that a robust solution to brain drain can be established through the collective interaction of all models, even while each individual model has its limits. It is critical to recognise that the complex issues caused by intellectuals' emigration do not have a single, all-encompassing solution or rapid remedy.

Biondo et al. (2012) suggest that the inclination to return to one's home country following a period of overseas study and work experience differs across nations. Nonetheless, there is a growing trend of increased mobility among scholars who frequently transcend national boundaries. For instance, a significant proportion of individuals in the US holding a PhD were born outside the country, and a substantial majority of engineering PhD recipients from US institutions possess temporary visas (Gaule, 2014). Consequently, this necessitates further investigation and research into the phenomenon, specifically focusing on the factors that influence brain drain because it can assist to develop strategic measures aimed at returning and retaining human capital within the country of origin (Latukha, 2022).

A considerable amount of literature has been published on brain drain, the reasons behind it, and its consequences. However, it seems that it was not possible for them to come to an agreement on a specific term. For instance, theoretically analysing 400 articles related to

brain drain from the 1950s, Giannoccolo (2009) suggests that there was not a single definition for the concept of brain drain given that it is a broad and challenging phenomenon. Despite that, regarding the history of brain drain, Cervantes and Guellec (2002) note that the British Royal Society first invented the term to characterize the movement of scholars to the US and Canada in the 50s and 60s, and it currently indicates out-migration of highly qualified individuals (Gibson & McKenzie, 2011).

Similarly, Beine *et al.* (2008) argue that brain drain specifies the movement of human capital and is mostly applicable to the emigration of fairly highly qualified personnel to industrialised from developing countries. In this study, brain drain refers to *substantial migratory waves of educated individuals* (Ilasco, 2021), resulting in *a net loss of human capital* (Straubhaar, 2000, p.8) for the countries involved. The degree or scale of the *educated* could have further been discussed, but generally, it is applied to describe fairly high-qualified scientists, physicians, engineers, and other professionals (Docquier, 2014) who possess at least master's and PhD degrees.

3.3.1 Types of Brain Drain and the Factors Driving Migration

As developed countries see the value of knowledge as a lucrative export, which has contributed to extremely rapid revenue development, higher education is increasingly becoming internationally integrated. Occupations are becoming more international due to the internationalisation of higher education. Additionally, citizens of developing countries highly value Western degrees and consider them as a means to secure employment in industrialised nations (Iredale, 2001; Straubhaar, 2000). Consequently, some graduate students are tempted to stay in the host countries after completing their degrees resulting in brain drain, which is one of the adverse outcomes of academic mobility (Knight, 2017).

Some researchers consider the issue as detrimental to the source countries (Naumova, 1998; Kopecká, 2013; Mainali, 2019) because it leads to a decrease in scientific productivity and global competitiveness (Adeymei et al., 2018), diminishes the source countries' attractiveness for inward investments (Maharaj, 2014), hampers medical capacity (Karan et al., 2016), and depletes human capital resources (Cattaneo, 2019), ultimately impacting the socioeconomic development of sending countries in the long term (Mlambo and Adetiba, 2019). Conversely, others promote beneficial effects on the source nations claiming that source countries can financially take advantage of emigrants' remittances (Beine *et al.*, 2008; Ngoma and Ismail, 2013; Dodani and LaPorte, 2005).

It is important to acknowledge that there are various theoretical perspectives on and classifications of the concept (Ansah, 2002; Iredale, 2001; Latukha, 2022). Therefore, this section centres on examining the push and pull classification, developed by Lewin (1951, cited in Baruch et al., 2007, p. 100), as they hold clear relevance for cross-border movements of graduates. These factors can be considered at both the organisational and national levels. However, since the final decision to emigrate ultimately lies with the individual (Brauch et al., 2007), the following discussion will focus on the pull and push factors from individuals' perspectives, without limiting the analysis to any specific sector.

In a thorough analysis of the development of higher education in Latin America and the Caribbean and based on World Bank research, Miranda (2008) notes that about 400,000 European researchers live in the US, and 70% of PhD students decide to stay there after obtaining their degrees. This trend is considered a horizontal brain drain that is the migration of high-skilled people between developed nations. Since this study attempts to explore the emigration aspiration of returned PhD graduates from Kazakhstan (a developing country), the flow of intellectual emigrants from developed to developed countries or horizontal brain drain (Ilasco, 2021) is not considered. Additionally, low-skilled migration (Hanson et al., 2017; Fernandez-Reino et al., 2020) is beyond the scope of this discussion because the study focuses on the emigration of highly skilled personnel from developing to developed countries (Straubhaar, 2000; Ngoma & Ismail, 2013), and because they are more likely to be able to emigrate compared to their lower-skilled peers in almost all countries (Docquier, 2014; Gibson & McKenzie, 2011).

This divide can further be categorised into several typologies based on the sectors. For instance, Table 3-1 indicates several sectors in which brain drain occurs. However, the exodus of intellectual emigrants from developing to developed nations, resulting in a net loss, is not limited to this list. As the table shows, the reasons why intellectuals leave their home countries for developed Western countries are somewhat similar. The similarities lie in search for a better research environment, improved artistic opportunities, and enhanced working and business conditions. Additionally, pull factors such as eagerness to work with the bests in their fields, access to advanced facilities, and ensuring family safety can be the drivers of brain drain (Gibson & McKenzie, 2011). Based on this table, one may question whether these improved circumstances were the reasons for graduates, particularly PhDs, to emigrate from Kazakhstan (RQ 2.1) or if the challenging conditions in Kazakhstan weigh more heavily in pushing them away from their home country.

Table 3-1 Brain Drain Types

Types of High-Skilled Brain Drain	Descriptions	References
Academic Brain Drain	This refers to the emigration of academics and researchers who seek better research environments	Siekrierski et a., 2018 Cattaneo et al., 2018 Jurowetzki et al., 2021 Subbotin & Aref_2021 Baruch *et al*., 2007 Marini and Yang, 2021
Cultural Brain Drain	This involves the migration of artistic and creative individuals in search of better artistic opportunities	Winichakul and Zhang, 2021 Boren and Young, 2013
Medical Brain Drain	This refers to the movement of healthcare professionals to countries with better working conditions	Karan et al., 2016 Benedict and Ukpere, 2012 Kizito et al, 2015
Technological Brain Drain	This involves the migration of individuals with specialised technological skills	Laila and Fiaz, 2018 Mlambo and Adetiba, 2019
Entrepreneurial Brain Drain	This refers to the migration of entrepreneurs and innovators who seek more favourable business conditions	Kaufmann & Malul, 2015 Adeymei et al., 2018

While many countries have implemented restrictive visa policy to curb migration flows, highly skilled intellectuals in many sectors are often welcomed and encouraged to migrate to Western countries (Laila and Fiaz, 2018). For instance, nowadays, academic mobility has become a distinctive feature of internationalisation, leading popular destinations to invest in the education market to attract top students and academics to study and work after graduation in the host country to satisfy the requirements of industry (Knight, 2012). For

example, Canada extended the validity of work permits for up to three years after postgraduate study, and the Provincial Nominee Programmes have been in place since the late twentieth century to address skill requirements. Similarly, in the UK, graduate visas introduced in 2021 allow individuals who have graduated from a recognised UK HEI to work or seek employment for a maximum of two years, and three years for those with Doctoral degrees.[27] As a consequence, some graduate students are tempted to remain in host countries after completing their degrees contributing to the phenomenon of brain drain, which is recognised as one of the detrimental consequences associated with academic mobility (Knight, 2017).

The temptation of graduate students to remain in host countries can be observed in Baruch et al.'s (2007) quantitative analysis of 949 international students at UK and US universities. Their study shows that slightly over 30% of international students intended to go back home upon obtaining their degrees. Conversely, more than 40% showed their intention to stay for an extended period of time, suggesting a likelihood of permanent stay (p. 107). A majority were tempted to take advantage of opportunities for highly skilled specialists in the host countries, favourable academic community, and the prospects of earning an income.

Likewise, based on data provided by the education department of Pavlodar region (Northern region in Kazakhstan), Vervekin (2017) highlights the concerns of the local government regarding the emigration of high school graduates to countries such as Russia, the Czech Republic, South Korea, the US, and others. The study reports that 90% of these graduates never return, citing better employment opportunities, personal activities in the country of study, and perceived improvements in overall quality of life in the host countries. Kopecká (2013) further identifies additional pull factors for international graduates, including the possibilities to self-realise, travel, and obtain a European degree. While Vervekin's (2017) research shares similarities with the current study in terms of research aim, it differs in its target participant group. The present research specifically focuses on higher-level graduates, namely masters and PhD graduates.

Regarding push factors, Gibson & McKenzie (2011) note that the reasons that make brain drain highly likely are: comparatively higher inequality, political uncertainty, religious fragmentation, and wage differences between home and host countries. Whereas Mirand's

[27] https://www.scotland.org/study/how-to-apply/study-and-graduate-visas

(2008) study in the Latin American and Caribbean context shows that a fragile system for science and technology in home countries sometimes puts limitations on scholars' development. Furthermore, in the African context, particularly in Nigeria, intellectual emigrants are pushed by factors such as high levels of corruption, political instability, poor quality facilities and equipment, and limited access to better training opportunities (Karan et al., 2016). These circumstances make nationalists' argument that each nation should independently cultivate and harness its intellectual resources (Ansah, 2002; Mahroum, 2005) incompatible. This is primarily due to the advantageous prospects that less developed countries, where these push factors prevail, stand to gain from accessing high-quality educational institutions in the Western world. It is recommended that these countries adopt a dual approach of importing human capital and fostering the development of their own brain gains (Mahroum, 2005).

As mentioned earlier, low salary acts as a push factor in some contexts (Gibson and McKenzie, 2011; Laila and Fiaz, 2019), but political instability seems more influential push factor for scholars not to return or to emigrate after returning. One illustrative example can be found in the work of Jansen (2013 cited in Mlambo et al., 2019, p. 6), wherein it is emphasized that academics in South Africa receive remuneration comparable to their counterparts in developed nations. Nevertheless, frequent strikes and riots have made the effective functioning of the higher education sector concerning for academics. Although scholars from more prosperous developing countries are more likely to return compared to their counterparts from less prosperous developing countries (Siekrierski et al., 2018), these types of instabilities can still impede the influence of returned scholars on higher education development and prompt them to seek stability in other countries.

To mitigate brain drain, experts in Simakova (2019) suggest that instead of changing the approach to migration policy, governments must focus on developing the country's economy, human capital, and state image. Three main suggestions are as follows: improving research institutions, providing a fair chance for qualified staff, and improving the economy. These are believed by Sajjad (2011) to aid the retention of intellectual emigrants in developing countries, as supported by his qualitative study with heads of departments in Peshwar University. The study also suggests aligning training abroad with the environment of the sending country.

In terms of the benefits and drawbacks of the brain drain on source countries, there are opposing points of view. Some writers, such as Beine *et al.* (2008), argue that if the

percentage of emigrants with higher education is more than 20%, the source country faces challenges such as an ageing population of intellectuals and regression in science, technology, and the economy, (Naumova, 1998). Taking this into account, the situation in Kazakhstan appears daunting, as official statistics from 2017 indicate that nearly 30% of emigrants from the country held a higher education degree and were between 25 and 44 years old (Ministry of National Economy of Kazakhstan, cited in Simakova, 2019). However, the specific push and pull factors for returned PhD graduates to emigrate are not clear. Exploring this issue would be beneficial for higher education policymakers in addressing the brain drain issue.

3.4 Brain Circulation

Brain drain was considered from nationalist and internationalist perspectives in the earlier section. However, Ansah (2002) provides the third one, globalisation model. It suggests that the mobility of experts can be an outcome of the globalisation process, and it aligns with the internationalist perspective but assumes a more proactive position. It does not necessitate intellectual emigrants physically returning to their countries of origin. Alternatively, this process, brain circulation, exploits intellectual emigrants' expertise rather than their domicile. Unlike brain drain and brain gain, brain circulation implies a reciprocal exchange of human capital that can potentially yield benefits for both the home and host countries (Ma and Pan, 2015; Saxenian, 2002). The overall structure of this section focuses on the concept of brain circulation and its various types, which exhibit slight variations and is illustrated through examples in different contexts.

Brain circulation phenomenon represents the bidirectional (Saxenian, 2005) movement of emigrants who left their countries to gain a better life in foreign countries and then return to their home countries to found business or companies whilst keeping their professional connections in the foreign countries (Saxenian, 2005). It is deemed beneficial for both sending and receiving countries according to Saxenian, (2002). However, theoretical and comparative analysis of academic research on brain circulation by Daugeliene and Marcinkeviciene (2009) reveals that brain circulation tends to focus on the movement of highly skilled individuals that can influence a nation's economic development by moving, sharing knowledge, learning, and teaching among various universities and states (Daugeliene and Marcinkeviciene, 2009). Furthermore, Gaillard *et al.* (2015) note that brain circulation means the mobility of intellectual emigrants globally to relocate to where they are required and attracted to irrespective of their citizenship.

The first definition emphasises the action of leaving a country for a better life and establish business or companies after their return while retaining professional and/or academic ties in foreign countries. The second definition considers the concept from a different perspective, knowledge-sharing. However, the third seems to discard the importance of highly skilled individuals' nationality. Despite the slight differences, all characterisations focus on the movement of intellectual emigrants between countries. In this study, the concept is examined through the lens of internationalisation, as it is viewed as an essential requirement for continued engagement and entry into the global scientific community (Mahroum, 2005). Therefore, this study follows the definition proposed by Daugeliene and Marcinkeviciene (2009), which emphasises the aim of knowledge sharing.

The literature presents various types of brain circulation practices (Table 3-2). From the perspectives of globalisation and internationalisation, the negative effects of brain drain can be transformed into positive outcomes through different forms of engagement, such as the diaspora option. Utilising the resources of diaspora and their connections to the country of origin is achieved through formally organised institutional networking initiatives (Meyer et al., 1997; Mahroum, 2005; Wang et al., 2006). Moreover, returned PhD graduates not only contribute to brain gain through their return migration, but they also facilitate the circulation of knowledge between their study countries and home countries by leveraging their networks established during their education in Western countries (Yuping and Suyan, 2015; Ortiga *et al.,* 2018; Kuzhabekova *et al.,* 2019). The emergence of digital platforms further supports the exchange of knowledge among highly skilled individuals across different countries (Petroff, 2016; Yazdani et al., 2019; Radwan and Mahmoud, 2018).

Information and communication technology (ICT) plays a crucial role in increasing institutional cooperation and competition, as well as providing opportunities for students and academic staff to benefit from internationalisation, particularly in situations where extensive travel is not possible (Tereseviciene et al., 2013). While not the primary focus of the present study, it is important to underscore the significance of virtual brain circulation, enabled by modern technologies, which allows professionals to exchange information and knowledge among migrants and countries without the need for permanent or physical returns. The relevance of these new technologies in the development of knowledge circulation should be highlighted (Petroff, 2016). For instance, Yazdani (2019) conducted a sequential exploratory mixed-method study to investigate the role of virtual networks and diaspora in brain circulation in Iran. The findings revealed that scientists residing abroad share their scientific knowledge and experiences with colleagues in their home country

through virtual networks, particularly the Internet. This form of communication facilitates instant interaction between non-resident specialists and domestic scientists, enabling knowledge transfer, compensating for underdeveloped knowledge bases, and facilitating scientific participation. These cost-effective mechanisms bring together diverse diaspora groups and local stakeholders, promoting coordination and collaboration. Additionally, they serve as valuable tools for creating and maintaining a database of skilled human capital within the diaspora, facilitating connections and the sharing of ideas to effectively address development challenges and foster sustainable solutions (Chand, 2019, p.15).

Table 3-2 Types of Brain Circulation

Types of Brain Circulation	Definitions	Authors
Diaspora Option	Networking that is formally and institutionally arranged with the intention of remotely mobilising the resources of the diaspora and their connection to the programmes of the country of origin	Meyer et al., 1997 Mahroum, 2005 Wang et al., 2006
Western-educated networks	Ongoing relationships and affiliations with scholars and organisations in the Western nations where returned PhD graduates completed their degrees.	Yuping and Suyan, 2015 Ortiga *et al.,* 2018 Kuzhabekova *et al.,* 2019
Virtual Brain Circulation	The exchange and collaboration of knowledge, ideas, and expertise among highly skilled individuals through digital platforms and virtual communication channels	Petroff, 2016 Yazdani et al., 2019 Radwan and Mahmoud, 2018

The practice of brain circulation is implemented in diverse ways, influenced by varying contexts and the policies in each specific setting. For instance, a web-based representative study by Rinkevičius and Kazlauskienė (2006) regarding the 400 Lithuanian migrators reported a low level of brain circulation process. In the survey, 85% of participants indicated that they do not maintain ties with universities in Lithuania. Only Lithuanian PhD students and PhD holders abroad are participants of organisational activities in Lithuania. Moreover, the authors argue that the limited duration of stay abroad (no more than four years) and institutionalised relations of migrants with foreign academics encourage the brain circulation process in Lithuania. However, Miin Wu's experience differs from the Lithuanian context in relation to the duration of time involved. For instance, Miin Wu emigrated from Taiwan to the US at the beginning of the 1970s and

returned to his home country in the late 1980s with a PhD degree from Stanford University; and work experience in high-level positions at top companies allowed him to build a business connection between Taiwanese and Silicon Valley stakeholders (Saxenian, 2002) keeping his Western-educated networks. This difference implies that individuals who have been abroad for both short and long durations can contribute to the circulation of knowledge.

Indeed, emigration is not a brain circulation process unless academic or business links between two countries are encouraged (Saxenian, 2002) and knowledge sharing agenda is met (Daugeliene and Marcinkeviciene, 2009). In accordance with this principle, practice of building links between intellectual emigrants and local research community can be exemplified in Zweig and Wang's (2013) study where Chinese government promote brain circulation more productively by initiating various programmes[28]. Their agenda is to lure experienced and junior scholars no older than 45 years old with continual residency abroad to return to work in China during their sabbatical leave, to engage in start-ups and deliver guest lectures, and do research in various fields of science in Chinese universities for a short time (Zweig and Wang, 2013; Welch and Cai, 2011). During their stay in China, they were supplied with housing free of charge, a high salary, insurance, and round-trip airline tickets. So far, more than two hundred groups and 12 thousand academics have accepted the grant (Welch and Cai, 2011). One can surmise that China's recent achievement of second position, after the US, in the research impact factor between 2011 and 2013 (Zou and Laubichler, 2017), was aided by the systematic approaches to brain circulation policies. For example, 75 per cent of scientific articles in biological science were written by academics of higher institutions, whereas scholars of science institutions published 15 per cent. The topics of Chinese academics' papers are much the same with scholars of the countries such as the US, Japan, and Germany. Twenty-five per cent of biologists do research cooperatively with foreign scholars, a practice that reflects the open policy aimed at promoting knowledge circulation (Zou and Laubichler, 2017).

To comprehend the qualitative characteristics of brain gain and circulation by China, based on 2013 official online data, Yuping and Suyan (2015) examined the contributions of *sea turtles* and *seagulls* on academic research and higher education. According to the authors (2015), the Chinese academics who come back to their country after obtaining their

[28] '100 Talents', 'the Cheung Kong' scholarship programme, and 'Spring Light' programme (p599)

degrees are called *sea turtles,* whereas those who stayed abroad are termed as *seagulls*[29]. Yuping and Suyan (*Ibid*.) could not find any scientific articles in *Nature*, a high impact scientific journal, with corresponding Chinese scholars' names in 1993. However, by 2013, they found 31 Chinese corresponding authors (some with several publications) in 18 publications. Among them, 22 authors were returners (sea turtles), and five of them were those who work both in China and in foreign countries (seagulls). One can see that in terms of research, full returners contributed significantly more than part-time returners. However, it can be admitted that those positioned in foreign countries as well can have an impact on the development of science in their home country without returning completely.

Similarly, in their qualitative study conducted by Ortiga et al. (2018), 45 mobile scholars born in Southeast Asian countries (such as China, India, Malaysia, Taiwan, Philippines, Thailand, Japan, Indonesia, Korea, and Vietnam) who had spent significant time in EU and North America working in academia or studying PhD and were currently working in Singaporean universities were examined. The study reveals that only eight of them were active participants in collaborative work with their colleagues in their country of origin. The reasons behind it are a restrictive research policy, restrictions on research funds crossing the border, and academic freedom. For example, one interviewee mentioned that some scholars are required to only gather their data in Singapore which limits their collaboration with their home countries whereas another interviewee noted that border crossing is not allowed for research funds. On the contrary, a majority of the interviewees (40) say they cooperate with their fellows in the country of their study (US and EU), which is seen as more productive than collaboration with the home country.

In both Yuping and Suyan's (2015) and Ortiga *et al.*'s (2018) studies, one can see that the influence of those who work abroad in research collaboration with their countries of origin is significantly low compared to returned academics (Yuping and Suyan, 2015) and those who collaborate with scholars in the country of their study (Ortiga *et al.*, 2018). However, to overcome this obstacle, the example of Chinese policy (Tung, 2008) might be productive. For instance, even though China does not allow joint or dual citizenship, the state developed a political strategy that can allow ethnic Chinese to return for a limited time as well as permanently. Consequently, the state accepted *the Protection Law* in 1991 that secured equality of rights of returned Chinese with locals. All their legitimate income

[29] In Chinese, full-time returnees from overseas with advanced education are often called *hai gui* or "sea turtles"; while those who do not give up their positions abroad but return part-time, are often named *hai ou* or "seagulls" since they fly back and forth frequently from shore to shore (Yuping and Suyan, 2015, p. 309).

in China is subject to favourable tax treatment and can be transferred to their foreign account whenever they prefer (Tung, 2008). This finding suggests that the active engagement of returned PhD graduates in ongoing Western-educated networks plays a crucial role in facilitating knowledge sharing between developed and developing nations.

However, due to limited empirical study on brain circulation in Kazakhstan, investigating the impact of intellectual emigrants on academia in Kazakhstan is seen as essential. For example, Kuzhabekova *et al.* (2019) focused on the PhD holders' experience, challenges, and strategies to integrate into research after their return from abroad; whereas, Lee and Kuzhabekova (2017) investigated pull factors for international scholars and the type of foreign academics who have located in Kazakhstan. Yet they cannot be compared to studies such as Yuping and Suyan (2015) and Ortiga *et al.* (2018) since Kazakhstani intellectual emigrants and their influence (if there is any) on Kazakh higher education, specifically on the internationalisation process, were neither investigated nor found in the empirical studies. The form and relationship of highly skilled diaspora vary, with some countries (China, India, Columbia) leveraging the critical mass of diaspora for their benefit while other countries, such as Lebanon, discontinue their attempts to lure the diaspora (Mahroum, 2005). It would be of interest to explore the willingness of intellectual emigrants to engage in knowledge circulation with scholars in Kazakhstan, as well as to identify potential obstacles that scholars of the Kazakh diaspora may face when seeking collaboration with their colleagues in Kazakhstan.

In conclusion, this section has examined different types of brain circulation highlighting their subtle variations and providing illustrative examples across various contexts. It has been demonstrated that harnessing the resources of intellectual emigrants can contribute to the internationalisation of higher education, provided that effective strategies are implemented to foster academic connections between intellectual emigrants and local scholars, as exemplified throughout this section. Furthermore, returned PhD graduates can contribute to the concept of brain circulation too by leveraging their scholarly connections in their country of study. Exploring these issues within the context of Kazakhstan higher education institutions would be of particular interest, offering valuable insights into the potential benefits and challenges associated with facilitating such collaborations.

3.5 Conclusion

All the studies reviewed in this chapter indicate that the internationalisation of higher education is an umbrella term that covers many aspects of higher education. All those

aspects are divided into main two pillars by Knight (2014), such as campus-based and cross border education. The issue here with campus-based aspect is that even though it is considered as necessary for improving higher education quality (Taylor, 2010) in terms of enhancing education and research quality for staff and students and contributing society considerably (de Wit et al., 2015), there are sufficient misperceptions in terms of its application in various contexts (Knight, 2015; de Wit, 2013, 2017). Despite different understandings of the concepts by various scholars of different countries, the role of internationalisation of higher education and academic mobility is increasing around the world, as evidenced through the literature review. Internationalisation of higher education is important because when applied correctly, with its one of the components such as external long-term academic degree mobility, it can raise human capital of the source countries through positive effects on specifically higher institutions, governments, and individuals themselves. However, there is the possibility that developing nations can fail in brain gain and experience the negative consequence of academic mobility, which is brain drain.

Furthermore, the second pillar, which is cross border education, has advantages as well as disadvantages. As indicated in the literature review, some nations fail to return their citizens after their studies abroad. In contrast, others benefit from mobile students' intellectual and financial resources. These opposing manifestations may depend on personal to global circumstances. Two critical factors identified from the studies regarding brain drain so far: push and pull factors. For instance, high salary, stable political conditions, better education for migrants and their children, and other attractive factors pull migrants and mobile students to developed countries (Jałowiecki and Gorzelak, 2004), whereas factors such as low salaries, lack of medical equipment, high crime rate, and other similar factors push individuals to leave their countries (Oosterbeek and Webbink, 2011; Bezuidenhout *et al.*, 2009). In view of all that has been mentioned so far regarding brain drain, one may suppose that these circumstances are similar to the Kazakhstan context. However, relatively little is known about the various factors that influence Kazakh intellectual emigrants to move to developed countries (brain drain)

Moreover, it is now well established from various empirical studies that countries challenged with brain drain have now been taking advantage of it through brain circulation. Saxenian (2002, 2005) illustrates this point clearly. For instance, the *Brain Circulation* section indicates that countries such as China, Taiwan, and India take advantage of former brain drain through circulating knowledge between local and emigrated individuals

productively. However, the nature of brain circulation between Kazakhstan and developed countries through intellectual emigrants and returned graduates has not yet been investigated. Moreover, this chapter has exposed that the brain circulation concept is new in Kazakhstan's context and needs to be investigated since there is no significant empirical study about it even though there are intellectual emigrants who emigrated from Kazakhstan to the developed countries.

The studies presented thus far provide evidence that graduates might stay in the host countries after graduation depending on various push and pull factors, which can negatively affect the source countries. Since this research focuses on the second pillar of internationalisation of higher education in more detail, which is external academic mobility, the experiences of PhD graduates and their aspiration to emigrate from Kazakhstan after obtaining their foreign degrees are necessary to be investigated. In the case of Kazakhstan facing brain drain issues, one can find it essential to explore if the graduates with foreign degrees intend to emigrate or have already emigrated because the mentioned statistical and empirical studies in the literature regarding Kazakhstan context are limited due to the scope of participants and methodology. If the graduates with foreign degrees have aspirations to emigrate, the factors that affected them should be considered to avoid possible future brain drain of the returned PhD holders.

Additionally, investigating their (Kazakh PhD graduate with foreign degrees) career experience after returning to Kazakhstan can explore the factors that hinder the government’s brain gain attempt. As the evidence presented in the literature review regarding various contexts, governments’ brain gain attempts are limited unless they have dealt with issues that might cause distraction or demotivate the returned graduates to work in higher education, which consequently can negatively affect higher education quality in home countries.

In summary, it has been shown from this review that long-term external academic mobility is one aspect of the internationalisation of higher education that has positive and negative manifestations. It began by considering the influence of returned graduates on home countries, higher education, and individuals themselves (brain gain) exploring advantageous and challenging experiences. It proceeded to suggest that the negative consequences of brain drain can be turned into a gain through establishing productive contact between local scholars and intellectual emigrants, as well as between returned PhD graduates and scholars in their countries of study. Also, it was mentioned that when academic mobility is applied effectively, countries benefit from it or fail to take advantage

of it depending on their strategies. The chapter that follows moves on to consider the methodological aspects of the study that involves participants from different fields of study and data collection tools to obtain valuable and reliable data.

4 Methodology and Data Collection

4.1 Introduction

In view of all that has been mentioned in the previous chapters so far, one may assume that investigating the long-term academic mobility experience of the individuals and its impact on their career progression and emigration aspiration especially in the context of Kazakhstan is important, as there are limited existing empirical studies. To achieve the research aim, the researcher adopted a mixed methods research approach to collect, analyse, and interpret the data (Creswell and Creswell, 2018) obtained through quantitative and qualitative methods.

This chapter begins by presenting the researcher's ontological and epistemological stance, followed by the research design and rationale for the study. Next, the rationale for the selection of data collection tools, the type of interviews and the use of a questionnaire are discussed. Then, having described the groups of participants involved in the interviews conducted virtually and the survey, the researcher outlines the researcher's qualitative and quantitative data analysis approaches in the data analysis section. The ethical issues section considers how the researcher dealt with any potential ethical concerns including confidentiality, anonymisation, and de-identification for qualitative and quantitative data collection.

4.2 Ontology, Epistemology, and Methodology

According to Cohen *et al.* (2018), paradigms are *characterisations, ideal types, typification, and simplifications for ease of initial understanding*, and they can *clarify and organise the thinking about the research* (p.9). Paradigms are independent assumptions about how researchers perceive and comprehend reality. Generally accepted paradigms in the social sciences include positivism, interpretivism, and pragmatism (Bryman, 2012; Creswell and Creswell, 2018; Cohen *et al.*, 2018) as a perspective or lens in the way they view knowledge; and, all these paradigms are based on and guided by their own ontological and epistemological beliefs and methodology (Scotland, 2012). Due to their different beliefs and approaches, the paradigms are dissimilar (Bryman, 2012). This dissimilarity prolongs *unnecessary paradigm wars* (Cohen et al., 2018:9).

Ontology is concerned with *the nature of the world* (Cohen et al., 2018:32) or *the nature of reality* (Creswell and Creswell, 2018:67). It is *the study of being* (Crotty, 1998:18). It is

concerned with *what is considered real in the world* (Creswell and Clark, 2018:37). Whereas epistemology is concerned with *how we gain knowledge of what we know* (Creswell and Clark, 2018:37). That is how researchers come to know phenomena or reality and what applies as an adequate approach to knowing (Crotty, 1998; Creswell and Creswell, 2018; Scotland, 2012; Cohen *et al.*, 2018). In other words, it focuses on researchers' procedures to find the truth. Whereas, a methodology is the process of conducting research (Creswell and Clark, 2018:37) using accepted processes and procedures (Cohen *et al.*, 2018). As Crotty (1998) notes, it refers to the justification for the chosen methods without being limited to describing them. Furthermore, the research methods are guided by generally well-known philosophical research worldviews such as positivism or interpretivism. Consequently, understanding their ontological and epistemological values and propositions is crucial to determine their appropriateness for research and characterise *its design, methodology, and analysis* (Ryan, 2018:1). Originally, the researcher was going to take a more interpretivist approach. However, the opportunity to add a quantitative element suggests a more pragmatic approach. This is discussed later in this section in more details.

The ontological stance of positivism is realism that considers phenomena as having an existence independent from the knower and that there is a single objective reality regardless of the researcher's perspectives or beliefs (Hudson and Ozanne, 1988). Consequently, observable truths exist separately from the investigators. Furthermore, positivists follow determinism, wherein causes determine the results. According to Nel (2016: para. 3) this 'means that events are caused by other circumstances; and hence, understanding such causal links is necessary for prediction and control'.

It is assumed that the phenomenon is not influenced by the reasoning of knowers (Scotland, 2012; Bryman, 2012); and that the world is regulated by theories or fundamental rules that should be examined or confirmed to make sense of the world (Creswell and Creswell, 2018). Moreover, epistemologically, positivist researchers and their observed phenomena are also considered independent and separate from each other (Weber, 2004). Positivism supports methodological processes of the scientific method to investigate objective reality. Their purpose is to produce core predictions deductively and generalise the findings (Scotland, 2012).

In contrast, the interpretive worldview has a differing stance to positivism. Interpretivists' ontological stance is relativist, in that it considers the truth or reality as subjective, and it varies among individuals and contexts (Scotland, 2012); it discards generalisations

(Teddlie and Tashakkori, 2009). From an epistemological perspective, the interpretivist worldview asserts that fundamental knowledge and reality are constructed, enhanced, and communicated through human beings' engagement with reality. No objective facts are waiting to be discovered. Knowledge and meaning are dependent on human interactions with the world they are investigating because actual knowledge arises only through the engagement of consciousness. Consciousness makes the world meaningful (Crotty, 1998; Bryman, 2012). So, interpretivism rejects the idea that the realities are discoverable and exist independently from the knower (Scotland, 2012).

Methodologically, interpretivists approach the phenomenon from the individual perspective qualitatively by for example using open-ended questions and listening attentively to what the participants express and how they perform in that context. (Creswell and Creswell, 2018). Their data is obtained through qualitative tools often consisting of individuals' direct quotes about their knowledge, viewpoints, and feelings. Researchers within the interpretive paradigm approach these types of data inductively to interpret meaning. This procedure accumulates, refines, and deepens knowledge. Researchers with interpretive paradigms favour comprehending a particular phenomenon in detail rather than generalisations (Merriam and Tisdell, 2015).

As one can see, what the reality is and its approaches differ subjectively, and both paradigms have their own means to realise their goals (Scotland, 2012). Furthermore, one (interpretivism) asserts excellence in intensely observational evidence whilst another (positivism) advances in generally applicable numerical evidence (Sieber, 1973). As mentioned earlier, originally, the researcher adopted a more interpretivist paradigm and started conducting semi-structured interviews virtually. However, during the data collection period, one interviewee expressed interest in the project and offered access to a database allowing the researcher to contact a large number of mobile academics. Accordingly, the researcher took a pragmatic approach due to the serendipitous circumstances to conduct more rigorous research because the world of social science can be far too complex on single methods to summarise (McLaughlin, 1991). This complexity can be investigated by utilising both survey and interview data as applicable. To answer or solve the research questions, researchers investigate the research questions both inductively and deductively (Creswell and Plano Clark, 2011 cited in Cohen et al., 2018:34).

Pragmatism is adapted from the Greek word pragma that means action, and as a research paradigm, it *proposes to reorient the assessment of theories around a third criterion: the*

theory's capacity to solve human problems (Powell, 2001 cited in Pansiri, 2005:196). The central pillar of pragmatism is that social experience influences an individual's awareness of the world. Their knowledge about the world is perceived through sharing individual experiences. For that reason, all the knowledge an individual has is obtained through social relationships. Knowledge is not reality but constructed to maintain a person's presence and be actively involved in the world (Kaushik and Walsh, 2019). Furthermore, a pragmatic approach allows researchers to freely choose approaches that address their issues and goals without being bound to a particular philosophy and truth (Creswell and Creswell, 2018), and it downplays ideas, namely *truth* and *reality,* by focusing on *what works* concerning the objectives and aims of the research (Teddlie and Tashakkori, 2009:294). It ignores the battles between the worldviews (*Ibid.*) but values both objectivity and subjectivity (Creswell and Vicki, 2018).

Since the researcher's worldview aligns with pragmatism, the researcher applies the mixed-method approach that is defined by Creswell (2015) as

> *an approach to research in the social, behavioural, and health sciences in which the investigator gathers both quantitative (close-ended) and qualitative (open-ended) data, integrates the two, and then draws interpretations based on the combined strengths of both sets of data to understand research problems* (p.13).

A fundamental concept of a mixed-methods approach is that through combined strengths of statistical and individual experience data, researchers can gain a deeper knowledge of the research problems compared to using qualitative or quantitative data in isolation (*Ibid.*). This definition highlights the importance of combining qualitative and quantitative approaches in a single study to obtain rigorous and reliable data to solve research problems. Furthermore, researchers with a mixed-method approach turn to various means to collect and analyse both qualitative and quantitative data (Creswell and Creswell, 2018; Teddlie and Tashakkori, 2009).

Researchers following the pragmatist worldview take a pluralistic standpoint in both collection and analysis to find the best answers to their research enquiries (Creswell and Clark, 2018). Accordingly, the introduction of a questionnaire was a result of serendipity whereby an interviewee assisted access to a database allowing the researcher to reach a greater number of returned graduates. In addition, the researcher used the literature reviewed to generate the survey. Later, during the analysis, the researcher coded some

quantitative data qualitatively and vice versa. This is discussed in more detail in a subsequent section.

From this procedure, one can note that the study takes advantage of both qualitative and quantitative approaches. Indeed, researchers should not set subjectivity against objectivity or vice versa but should consider that one is not obtainable by excluding the other (Hanson, 2008). He argues that, instead, researchers should be concerned if their investigation can help them discover what they want (Op. cit. p.109).

Given all that has been mentioned so far, the researcher recognised pragmatism as the most suitable worldview in this study. Through this paradigm, the researcher may be able to provide factual findings by approaching the issue both qualitatively and quantitatively. A more detailed account of the methodology is given in the following section.

4.3 Research Design

So, taking into account a lack of empirical studies on Kazakh graduates' career experience and aspirations to emigrate, the researcher initially started collecting data with interpretive methods as it is advantageous to explore, comprehend, and describe participants' individual and societal experiences from their perspectives. It is also effective when the subject is insufficiently researched (Smith and Dunworth, 2003 cited in Jenkins *et al.,* 2012:492). However, while doing interviews virtually, one of the participants offered help to provide access to a database of scholars with foreign degrees in Kazakhstan, which led the researcher to adopt a mixed-method design. This type of design is called *emergent*, and it usually happens when the researchers see the necessity for the alternative form of data during their research (Creswell and Clark, 2018:108).

Having considered the opportunity, an amendment to the original ethical approval was obtained from the College of Social Sciences Research Ethics Committee at the University of Glasgow (see Appendix 4). To understand the quantitative data at a more detailed level, the researcher decided to follow the explanatory sequential mixed-method design that was adapted from Creswell and Creswell (2018). This type of mixed-method design proceeds with the quantitative approach in the initial phase and purposing sampling in the following phase (Creswell, 2014). So, based on the literature review and several initial interviews conducted virtually, the survey (first phase of data collection) was generated to explore the general backgrounds of graduates, their motivation to study abroad, their professional lives after returning, and their aspiration to emigrate. The survey was used to answer the first

three research questions because the researcher wanted to generalise the findings to the broader population of returned graduates in Kazakhstan.

The final phase, the qualitative approach, was conducted as a follow-up explanation to the quantitative outcome of the returned graduates. However, two other groups of participants were investigated based entirely on the qualitative approach as it was challenging for the researcher to reach out to a large number of intellectual emigrants and university managers due to time and access limits. Although critics of qualitative study consider it as limited to a small sample size and unable to generalise the outcome (Cohen *et al.*, 2018:289-380), and it has a downside such as low believability by policymakers (Rahmen, 2017), the qualitative approach has its significance in obtaining more detailed data when working with human-as-instrument (Cohen et al., 2018:289-380). In the qualitative part, the researcher planned to further explore specifically PhD graduates' perspectives on the government, Kazakh universities, their individual lives, and future perspectives upon returning to Kazakhstan.

According to this, even though the researcher collected both types of data, qualitative data are prioritised because it involved three different groups of participants in answering the research questions. Also, qualitative data is richer and more detailed than quantitative data which means the former may allow us to understand what the latter numerical data have identified as of interest.

Therefore, in the model below, the dominant approach is noted with an upper case 'QUAL'. In contrast, the quantitative data played a supplemental role because the survey was used to generate data from only graduates due to the limited time and unexpected pragmatic decisions to shift from a qualitative to a mixed-method design. Consequently, lowercase 'quan' was used. Also, the '→' directional sign was used to indicate the sequential nature of the design (Creswell and Creswell, 2018; Creswell and Clark, 2011). The diagram that shows the research phase, process, and timeline (Appendix 9) was adopted from Creswell and Creswell (2018, p.342)

Overall, this section discussed the advantages and disadvantages of using quantitative and qualitative approaches and explained why the researcher chose the explanatory sequential mixed-method design. Also, it was noted that quantitative data played a supplemental role in the current research. Furthermore, the researcher noted the reasons for collecting both quantitative and qualitative data from only one group of participants (PhD graduates). The section that follows moves on to consider the data collection tools.

4.4 Data Collection Tools

4.4.1 Interview

Since the researcher follows the mixed-method design, it includes tools of both quantitative and qualitative methods. In this sub-section, the researcher considers one of the qualitative method tools: the semi-structured interview. The reason for the choice was the nature of the semi-structured interview. Saunders *et al.* (2016) note that it allows a degree of flexibility in that a researcher can leave out or add additional explorative questions in specific circumstances during the interview process. The inherent flexibility also allows the sequence of questions to vary depending upon the interview flow to investigate the researcher's objectives and research questions while still adhering to the overall script.

The researcher prepared a limited range of questions related to the subject in advance and planned to ask additional questions. The participants were encouraged to answer extensively and in detail because the researcher tried to concentrate more closely on the matter that answers the research questions. To gain depth, the researcher structured the interviews based on three classes of related questions such as *main questions, probes, and follow-up questions* (Rubin and Rubin, 2012:6). Indeed, using probes whilst interviewing is considered a valuable element for assuring the data's reliability because it helps to clarify essential matters brought by the participants, scrutinise tender points, and extract meaningful and complete information (Barriball and While, 1994). All the interviews were conducted virtually in the Kazakh, Russian, and English languages depending on the participants' preferences.

Initially, the researcher formulated the interview schedules based on themes derived from relevant literature (recall Ethical Amendments Application). Subsequently, to delve deeper into the principal themes discovered during the quantitative phase and to facilitate a thorough understanding of the subject matter, the interview schedules were refined using sections and items from the survey. For instance, to gain deeper insights into the experiences of PhD graduates (i.e. Experience_after_Return variable), participants were prompted to elaborate on the specific advantages and obstacles encountered during their pursuit of a PhD abroad and upon their return.

Another example can be seen in Block 4 in the survey, which specifically examines the internationalisation process in Kazakh universities. The survey results revealed a positive attitude among the graduates towards the process. To delve deeper into the subject and to

seek potential areas for improvement, the researcher conducted interviews with participants, specifically inquiring about their opinions on specific measures for internationalising Kazakh higher education. Through this approach the researcher attempted to reach the third research objective (Research Objectives 1.5) by exploring more effective strategies for internationalising Kazakh higher education.

Furthermore, regarding the impact of internationalisation on higher education and its effect on the local language status, two distinct and contrasting groups emerged. Due to the divergence of opinions among survey participants regarding the consequences of solely teaching in English on the Kazakh language, the researcher sought the viewpoints of interview participants regarding the influence of English in the internationalisation process. The results of these interviews can be found in the results chapter, specifically in section 5.2.2.5. By utilising these two distinct research tools in a sequential manner, the researcher was able to thoroughly investigate research question 1.1 (see Research Questions 1.6). As a result, a meticulous analysis of both quantitative and qualitative data was conducted, facilitating a comprehensive examination of the internationalisation process as well as motivations, experiences, and aspirations to emigrate among the cohort of PhD graduates who had returned.

However, the questions designed for intellectual emigrants, the second group of participants, were slightly revised and changed. Specifically, the personal experience chapter focused more on the benefits and challenges of working and settling down abroad and collaborating with scholars in Kazakhstan. The reason for that was because the researcher was interested more in what triggered their emigration, which was one of the research questions. Also, the researcher's focus was what challenges they faced to collaborate with scholars in Kazakhstan.

In addition, the researcher asked university managers about their institutions' approach to internationalising higher institutions and their opinion on the quality of PhD graduates' impact. Nevertheless, the researcher did not start the interviews with these questions. First, the researcher began each interview by welcoming and appreciating the participants for allocating their time. Then, the study's purpose and the participants' rights were briefly introduced, followed by interview questions. This approach is crucial for interviewees to understand the interview process and meet the ethics requirements (Fylan, 2005).

Participants were informed that the researcher would record the interview to avoid weak data and minimise disruptions in conversation flow (Cohen and Crabtree, 2006; Patton, 2014). Taking notes whilst interviewing the participants and following their answers could

be distracting (Cohen and Crabtree, 2006). Therefore, each interview was recorded, and additional notes were taken afterwards. This allowed the researcher to document any spontaneous thoughts and provide supplementary contextual information for each individual interview.

However, the researcher did not avoid note-taking altogether during interviews because, as Patton (2014) characterised, it helps the researcher create new enquiries related to the topic during interviews. For example, whilst a virtual interview was in process, the researcher took notes to avoid interrupting the participants. Then, the researcher asked the questions that were newly formulated. This strategy helped to delve deeper into the research issue. Also, some participants required not to include some parts of their interview without giving the exact reasons. To fulfil the requirement of the participants, the researcher noted that those parts should be excluded. Furthermore, the researcher took notes where something was unclear and asked the participants for clarification. The last approach supported the researcher in collecting meaningful responses by engaging their participants to clarify and reflect critically, especially when participants respond more abstractly (Galletta, 2013).

Regarding the interview length, each virtual interview lasted between 30 minutes and one hour or more, depending on the participants' availability and the level of detail they wished to provide. Due to the availability of participants and possible interruptions (weak internet connection, some participants being late, and other distractions from participants' side such as parking their cars and being in public places), the researcher was prepared to spend time accordingly because it is a must for researchers to be able to adapt to any circumstances (Rowley, 2012). For example, when a participant had only 30 minutes for an interview, the researcher focused on obtaining responses to the most valuable sections of the schedule. However, the researcher could afford a more discursive and narrative approach to obtain more detailed information when an interviewee was available for more than 30 minutes.

4.4.2 Questionnaire

As mentioned earlier, this research included three different groups of participants. Having been offered access to the pull of scholars in Kazakhstan, the researcher generated a questionnaire that focused on returned PhD graduates only (Appendix 6). However, since the researcher obtained considerably low responses from the returned PhD graduates despite the effort, the researcher redesigned the survey to involve all graduates with different foreign educational levels and backgrounds without being limited to PhD graduates (Appendix 7). It provided a general experience for all returned graduates in the

context of Kazakhstan and as such was considered useful to set context and background and provide additional themes to be covered in interviews.

Furthermore, the survey was developed based on previous studies on the internationalisation of higher education, academic mobility, and its positive and negative impacts. Notably, several literature sources have served as foundations for adopting multiple questionnaire items. Thus, it is important to acknowledge these sources and highlight their influence on the current research tool. They are the Digital International Student Survey conducted in 2019 and 2021 and the survey on Study Abroad Data from 600 freshmen at the University of North Florida (Glencross & Wills, 2006). The former received an impressive response from over 105,000 prospective international students from 191 countries. Furthermore, Findlay *et al.*'s (2010) survey provided valuable content for the current research questionnaire, as it aligns with the shared research goal of understanding the motivations behind diploma mobility and the career aspirations of individuals who choose to study abroad.

For instance, the item 'My family was keen for me to study in a particular country' was adopted as 'My family wanted me to study abroad' in the current research survey question '3.20 What made you decide to study abroad?', while the question 'Were restrictions on the number of places to study your discipline in UK universities a factor in encouraging you to consider studying abroad?' from Findlay *et al*. (2010, p. 61) was included as the item 'Kazakh higher institutions did not have the discipline I preferred' in question 3.20 of the current research. Moreover, items such as 'Teaching quality' and 'Cultural experience' were incorporated from the Digital International Student Survey (2019). All these surveys aimed to investigate respondents' motivations to study abroad aligning with the focus of the present research. Therefore, the selected items primarily focused on capturing motivational factors and utilised questions with multiple response options.

Furthermore, to generate the survey the researcher used the data from seven preliminary interviews conducted virtually with university managers, PhD graduates, and intellectual emigrants. So, the data were collected using a survey questionnaire that was designed to measure the following constructs: *the general picture of graduates with foreign degrees*, *factors that affected their decisions to study abroad and return to Kazakhstan*, *their opinion on the internationalisation of Kazakh higher education*, and *their experience and aspiration to emigrate after their return to their country of origin*. However, the final block asked for contact details if the participants decided to participate in the follow-up virtual

interview regarding their experiences after long-term external academic mobility. In total, the questionnaire included five blocks of 32 open and closed questions.

In the hope of improving response rates for the survey, the researcher included a personal information section at the start of the online survey because, as suggested by Reips' (2002) internet-based research, doing so decreases the dropout rate (p.243). Furthermore, the researcher applied several strategies mentioned in Cohen *et al.* (2018) that can assist in increasing the level of response in general. For instance, to increase the response rate the researcher kept the completion time between 10 and 12 minutes and mentioned it on the initial page of the survey. There also, the researcher's institution was indicated to show legitimacy. The researcher sent reminders twice through the department of Bolashak that deals with individuals who graduated from foreign universities. Other than these recommendations, one participant voluntarily included the survey link on her individual Facebook page in support of the researcher. All these strategies were hoped to increase the response rate for the survey.

The participants' opinion on the internationalisation of higher education was covered in Block 3. The researcher used a 5-degree Likert scale varying from 1-Strongly Agree to 5-Strongly Disagree. However, there are differences of opinion among scholars regarding the numbers of the Likert scale. For instance, Wu and Leung (2017) believe that the greater the range of Likert scale numbers means that a researcher obtains more information, whereas a smaller range of scale numbers leads to information loss. One can acknowledge the benefits of more anchors in Likert scale but considering the time participants spend on completing the questionnaire (10-12 minutes long because it includes open-ended questions), the researcher preferred the questionnaire to be less time consuming and less cognitive pressure for participants and used a 5-point Likert scale. In their eye-tracking research to examine rating scales in processing the information, Chen *et al.* (2015) conclude that the 5-point scale required the least thinking effort, which can facilitate the participants spend more time on open-ended questions in the survey.

On the one hand, the 5-point scale requires less time and less effort cognitively (Chen *et al.*, 2015), but on the other hand, it can have disadvantages. For instance, Nadler *et al.* (2015) found that participants might choose midpoint in a survey when they show indifference, feel dubious, and abstain from giving their opinion. Even though the midpoint might not fulfil its purpose as in Nadler *et al.*'s (2015) study, Dawes (2008), comparing aggregate-level data characteristics, concluded that a 5-point scale provides better reliability and validity compared to smaller number scales. There is little difference in

skewness and kurtosis between 5-point and higher scales. Also, the midpoint can mirror participants' authentic positions when measuring opinion (Chen *et al.*, 2015). So, the researcher considers the 5-point Likert scale appropriate to use by following Nadler *et al.*'s (2015) recommendation, which is defining the midpoints for participants plainly.

Also, as mentioned earlier, the questionnaire included both open and closed questions. They are about their country of education, their current job, the reasons for their aspiration to emigrate (in case they have), and their academic mobility experience. These questions were analysed quantitatively and qualitatively, which is called *quantitising* and *qualitising techniques* (Tachakkori and Teddie, 1998:126). For instance, the information about their experience was analysed qualitatively, whereas other information varying from their countries of study to their higher education levels was analysed quantitatively. In this section, the researcher focused on the rationale underlying the development of the qualitative and quantitative tools used to collect the data. The following section will discuss piloting the tools.

4.5 Piloting

5.5.1 Piloting the Interview

Seidman (2006) suggests that researchers pilot their interviews for testing the questions. It helps the researchers to identify parts that distract from their purpose. Another benefit of piloting is that it helps researchers reconsider their research questions (p.39) and even their research design (Sampson, 2004) based on their discovery. Following these suggestions, the researcher piloted interview questions virtually with one member of each group: the PhD graduates, university managers, and the group of intellectual emigrants.

Piloting aims to improve the questions that guarantee the research questions are validly and reliably answered and avoid possible issues with recording the interviews (Saunders et al., 2016). Regarding the former, during the pilot interviews, the researcher had to rephrase some questions during the virtual interview. Taking these issues into account, the researcher edited several interview questions as they were unclear to be answered due to the translation from English into Kazakh and Russian. Furthermore, piloting the interview virtually made the researcher aware of the fact that some more additional interview questions should be added to answer the research questions as in detail as possible, and the researcher did so; eight questions for university managers, seven questions for PhD

graduates, and one question for intellectual emigrants (Interview Question can be found in Appendix 8).

In terms of the latter issue, recording issues, the researcher identified a technical issue with recording WhatsApp calls. For instance, the researcher initially used the phone (Redmi Note 6 Pro, Model – M1806E7TG) to record the conversation when interviewing an intellectual emigrant through WhatsApp, a free multiplatform messaging app. The conversation lasted for an hour. However, after the interview finished, the researcher realised that the voice recorder on the phone recorded the researcher's voice only on the WhatsApp conversation. Then, the researcher made another appointment with the same participant to interview virtually after purchasing a new voice recording device – EVISTR Digital Voice Recorder. The second interview was shorter than the previous one, but the researcher still could ask the essential questions. So, piloting prevented the researcher from further such technical issues.

Through piloting the interviews virtually, the researcher gained some confidence and competence in interviewing various people virtually with different backgrounds and conducting semi-structured interviews online; as Saunders *et al.* (2016) note, researchers' competencies and approaches will depend on their level of preparedness before engaging in interviews. Furthermore, during the piloting stage, the researcher started applying for ethical amendment approval to add a quantitative approach as a supplementary data collection tool to generalise the findings because one of the interviewees offered access to a body of scholars in Kazakhstan. The next sub-section describes piloting the survey.

4.5.1 Piloting the Survey

Having obtained amendment approval (Appendix 4) from the College of Social Sciences Research Ethics Committee at the University of Glasgow, the researcher piloted the questionnaire with several participants (N=19) to produce a solid questionnaire. All participants were sent the link for the survey and asked to follow through with the questionnaire. They were also required to report in case they found items that needed to be reconsidered. This procedure is highly recommended by Marshall (2004). He notes that researchers must pilot the survey before distributing it to participants to guarantee reliability and validity by removing any faults in phrasing and directions that confuse the respondents and then redraft the questions in the survey.

Moreover, piloting benefits in terms of the questionnaire flows smoothly and assists in ascertaining that the instrument works well overall, especially in survey research where

participants complete the questionnaire individually without researchers' assistance in case of confusion (Bryman, 2012). As a result of piloting the survey, it was identified that several branches needed to be added correctly for the survey to run smoothly, and the survey itself needed to be shortened as the initial survey was too long to complete.

Furthermore, regarding low-rate response and no response in survey items, critically evaluating methodological issues related to survey designs, Rattray and Jones (2007) argued that piloting assists researchers to identify questionnaire items with no response rate. Similarly, after piloting the questionnaire, the researcher identified two open-ended questionnaire items with a low response rate and, due to that fact, converted them into closed-ended questions in the hope of obtaining sufficient responses. The reason for the low response rate could be that the questionnaire took 10-12 minutes and consequently, respondents did not want to spend answering the open-ended questions. Concerning the difficulties, Rudestam and Newton (2015) recommend that researchers pilot any research tools they apply in their research regardless of if they composed them by themselves or are standard tools because it can help eliminate difficulties and confusion participants might face during completion. Based on their recommendations, the researcher prevented future possible low-rate responses by editing the questions and converting open questions into closed ones. Additionally, the researcher put Asterix (*) in some essential questionnaire items to avoid a low response rate.

Considering individuals involved in a pilot study plays a significant role as well. In their paper that discusses piloting a survey study, Lackey and Wingate (1997) argue that piloting should involve participants similar to the focused group of subjects. Since the researcher focused on the graduates' external long-term academic mobility, the pilot study involved those who obtained their degrees from foreign universities. They had different degrees of education levels as such: master's and PhD. Additionally, to obtain constructive feedback, the researcher involved his supervisors in addition to participants.

In summary, based on constructive feedback from supervisors and some participants, the researcher edited several questions, converted open-ended items to closed ones, and added sub-questions (branches) until the questionnaire's latest draft was confirmed. The piloting was used to discover the length of time the survey takes to fill, reconsider the dubious directions, and determine if the questionnaire had items unsuitable or unpleasant for participants (Wilson, 1985:381 cited in Lackey and Wingate 1997).

4.6 Reliability of the Questionnaire

It is necessary to know how the survey items are reliable in the collected data. Excellence in quality tests is vital to assess the reliability of data obtained in a research study (Tavakol and Dennick, 2011). To do so, one can measure reliability in two ways: the alpha coefficient (Cronback's alpha) and the split-half technique, which determine a reliability coefficient (Cohen *et al.*, 2018). Alpha was introduced in the 50s of the 20th century by Lee Cronbach to offer an internal consistency measurement for a scale and test, and it varies between 0 and 1 (Tavakol and Dennick, 2011). Since this is the most commonly used measure to establish reliability for scale items (Field, 2018), the researcher calculated Cronbach's α reliability in IBM SPSS Statistics (Version 24.0) for the nine scale items in *Opinion on Internationalisation of Higher Education* variable. This variable attempted to investigate the participants' attitude towards the internationalisation of Kazakh higher education. As there was one scale variable in this study, Cronbach's alpha was conducted only for the nine items in that variable to determine its internal consistency reliability.

Table 4-1 Cronbach's alpha on the nine-scale item

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.749	.767	9

The result of Cronbach's alpha value (Table 4-1) suggests that the measured variable in this study was reliable because, based on the guidelines by Cohen *et al.* (2018), Cronbach's alpha is reliable if it is between 0.70-0.79. In terms of this measure, Szafran (2012) notes that Cronbach's alpha is adequately reliable in the social sciences if it is 0.70 or higher. Cronbach's alpha (0.749) indicates that the items in the variable can be qualified as internally consistent based on the alpha value. It means that the items examined have more than 70% validity.

4.7 Participants

4.7.1 Interview Participants and Sampling

Approaches to selecting samples need to be based on ontological and epistemological perspectives with the primary objectives of the research (Campbell *et al.*, 2020). Due to the purpose of the study, the researcher used a stratified form of purposive sampling. Its difference from other forms of purposive sampling is that participants are separated based on their categories (Campbell *et al.*, 2020). Alongside this, the researcher divided the

participants into three groups: PhD graduates, university managers, and intellectual emigrants. The reason for this division was to explore the issues of the internationalisation of Kazakh higher education from three different perspectives.

Alongside stratified purposive sampling, the researcher also adopted a snowball sampling strategy where participants assisted the researcher to find other subjects of interest who could provide the researcher with necessary information (Creswell and Poth, 2016). One of its advantageous characteristics was that the snowball sampling strategy assisted the researcher to access participants who were hard to reach (Miller, 2003). Some participants, such as chancellors, vice-chancellors, and intellectual emigrants, were among the people hard to reach for the researcher. In this situation, snowball sampling played a significant role in recruiting the participants of those groups.

Moreover, as Cohen *et al.* (2018) note, snowball sampling is advantageous when participants feel sceptical about the researcher. By following this sampling method, the researcher could avoid the participants' suspicion of the researcher as they knew the persons who provided their contact details to the researcher. Unfortunately, during organising the meetings with two of the participants (intellectual emigrants), they refused to give interviews because they misunderstood the purpose of the study when their acquaintance had explained them. The researcher assumed that the participants thought they were invited to media interviews. The following sub-sections provide specifications and criteria used for recruiting the participants.

4.7.1.1 PhD Graduates

Semi-structured interviews were conducted virtually with 8 PhD graduates (n=8). Based on the purpose of this study, the primary inclusion criteria for selecting the PhD graduates were as follows: obtained their PhD degrees from foreign universities, returned to Kazakhstan afterwards, and had been working in higher education. Etikan *et al.* (2016) describe this approach as purposive sampling, sometimes called *judgemental sampling* (Saunders et al., 2016:301). The researcher applied this type of sampling to choose participants deliberately according to their specific characteristics, experiences, and knowledge to obtain specific data for the field of research (Etikan *et al.,* 2016).

However, there were no specific criteria for their fields of study and ages as the researcher did not focus on them. The researcher contacted PhD associate groups and personal acquaintances for PhD graduates' contact information to involve the participants, explicitly noting the criteria above. The participants' regional backgrounds varied. They were

working at higher institutions in Southern, Northern, South-eastern, and Central Kazakhstan.

4.7.1.2 University Managers

Eligibility criteria for the second group, university managers, required them to have experience in internationalising the higher education process in Kazakhstan. They are, for example, chancellors, vice-chancellors, and heads of the departments that deal with international issues of universities. Among these participants were PhD and masters' graduates with foreign who had been working in managerial positions at their universities. This group of participants were from Central, Southern, and South-Eastern Kazakhstan. In total, the researcher conducted semi-structured interviews virtually with four university managers (n=4), each interview length ranging from 30 minutes to one hour.

The reason for involving this group of participants was to study the issue of internationalisation of Kazakh higher education, PhD graduates' career experience, and their attempt to circulate knowledge with intellectual emigrants from managerial perspectives. Only one participant in this group has had almost two years of experience at the managerial level, whereas others' managerial work experience ranged from 7 to 12 years. Four participants were females, whereas only one was male.

4.7.1.3 Intellectual emigrants

Furthermore, as Kazakhstan has experienced brain drain issues since its independence, and academic mobility is associated with brain drain issues in some literature (Knight, 2017; Bezuidenhout *et al.*, 2009; Miranda, 2008; Mba and Ekeopara, 2012), the research emphasises the importance of involving intellectual emigrants (n=9) as the third group of participants in the study to understand what triggered their aspiration to emigrate to developed nations and their willingness to circulate knowledge with scholars in Kazakhstan. For that reason, the intellectual emigrants were involved with various academic degrees in different fields such as medicine, engineering, finance, IT, and social science. Their current locations whilst interviewing virtually were the US, UK, Sweden, Czech Republic, Poland, and Indonesia.

To collect data from them, the researcher contacted the European Association of Kazakh Doctors for the contact details of intellectual emigrants to invite them to participate in the study. Also, some top Western universities' websites were searched, and the email addresses of Kazakh intellectual emigrants were identified. Then an introductory email was sent asking if they would be willing to participate in the research. Also, through snowball

sampling, the researcher contacted the participants using WhatsApp calls as it was useful to reach the emigrants in different countries. Primary inclusion criteria for them were that they had local or international degrees and emigrated from Kazakhstan to the country of residence.

In summary, this section has described the participants of semi-structured virtual interviews and sampling strategies to approach the subjects. Henceforth, the three groups will be identified as such: PhD graduates, university managers, and intellectual emigrants. The survey participants' details will be shown in the results chapter. The section that follows moves on to consider the quantitative and qualitative data analysis.

4.8 Qualitative and Quantitative Data Analysis

4.8.1 Qualitative Thematic Analysis

As mentioned earlier, the researcher obtained qualitative data through semi-structured virtual interviews and open-ended questions in the survey. All the gathered qualitative data from multiple sources at various time points were analysed thematically by the researcher. The researcher used thematic analysis due to its wide application beyond various research issues and epistemologies (Nowell *et al.*, 2017). Also, thematic analysis was beneficial for systematically observing' personal experiences (Boyatzis, 1998). Moreover, its advantage was that its flexibility enabled the researcher to identify themes in various ways (Braun and Clarke, 2006:81).

For instance, as concerned with the mixed-method approach of the study, the researcher studied the issue quantitatively and qualitatively, and the researcher approached thematic analysis deductively and inductively, which is noted by Fereday and Muir-Cochrane (2006:82) as *a hybrid approach.* For instance, the researcher initially approached the data deductively by developing key themes based on the literature review and research questions, deductive coding. Contemporaneously, prior themes guided analysis but did not restrict themes to emerge directly from the interview data, which is inductive coding (Hayes, 2000; Guest *et al.*, 2012).

Regarding how to obtain significant outcomes from the data, in their article to direct researchers with a thematic analysis approach, Nowell *et al.* (2017) encourage researchers to carry out their study in a methodical way; specifically, researchers should show that their data analysis carried precisely, consistently, and exhaustively. To that aim, the researcher followed six phases of thematic analysis provided by Braun and Clarke (2006)

instead of Hayes' (2000) seven stages for thematic analysis because the former's approach seemed more succinct than the latter.

Furthermore, the researcher followed the *15-point checklist criteria* by Braun and Clarke (2006:96) to conduct a solid thematic analysis. The criteria involve processes from transcribing to writing a report. Based on the phases and the criteria, the researcher divided the analysis procedure into four phases: a) Transcription, b) Coding, c) Analysing, d) Reporting because although its flexibility empowers researchers to identify themes in various ways, consistency in doing thematic analysis is essential (Braun and Clarke, 2006:81). The analysis procedure was a continuing process during the entire research. In the subsequent sub-sections, the respective phases are going to be considered in more length and detail.

4.8.1.1 Transcription

There were three groups of participants such as PhD graduates with foreign degrees, university managers, and intellectual emigrants. After conducting the interviews virtually with each participant, the researcher attempted to transcribe several interviews immediately because immediate transcription provides a complete and exact description (Moser and Korstjens, 2018). However, transcribing all interviews immediately was sometimes impossible due to the length of some interviews and the time scheduled between interviews.

In terms of organising the transcripts, the researcher labelled the transcripts individually, showing necessary descriptions of the transcript. Also, the researcher saved the copies of all the transcripts in different places such as university cloud storage, individual laptop, and a separate hard drive. These procedures are important to organise or avoid losing the qualitative data (McLellan *et al.,* 2003). Furthermore, for the transcripts to be read quickly, the researcher formatted them according to the recommendation of McLellan *et al.* (*Ibid.:66*) that is *Arial 10 font size with 2.5 cm on all sides and left-justified.* However, this recommended formatting did not comply with the format of NVivo 12.7 when the researcher uploaded the formatted transcripts into the software. Then, the researcher proceeded with the format in the NVivo.

Interview participants gave interviews virtually in languages convenient for them (Kazakh, English, and Russian languages). Some kept switching between the languages during the virtual interview. Even though it was time-consuming, the researcher transcribed all the interviews verbatim by himself because it helped the researcher recognise scopes that was needed to improve in the following interviews (Whiting, 2008) and assisted in engaging

and immersing into the data comprehensively and thoroughly (Humphrey and Lee, 2004). Consequently, transcribing interviews assisted the researcher in raising new questions to ask in the later interviews.

However, Halcomb and Davidson (2006) argue that transcribing can result in various errors caused by anthropogenic factors on top of the time-consuming nature of the transcribing process. Erroneous interpretation and language accuracy, for example. Their (*Ibid.*) arguments may be considered reasonable because in their article about developing transcribing accuracy in a qualitative study, MacLean *et al.* (2004) found that transcribers do make errors due to unfamiliarity of and language differences of transcription, engaging in transcription without prior training. However, since the researcher was aware of the content and interviewed the participants virtually without relying on others' assistance, it can be believed that sufficiently accurate transcripts were generated without making significant errors. Moreover, while transcription does not have to aspire to perfection, researchers can improve transcription quality by *acknowledging, embracing, and discussing transcription dilemmas* (Nikander, 2008:229).

As Sutton and Austin (2015) suggest, the researcher re-read the transcripts to check any types of errors, including punctuation, anonymising the participants, and placing necessary notes. Furthermore, all the transcripts were assigned with a unique name following McLellan *et al.*'s (2004) recommendation, and their audio files were kept in a separate folder. For example, if a participant belonged to a university manager group, the interview with a university manager was kept in that group folder separately with an anonymous name such as UM1. This procedure allowed the researcher to organise the data of each group accurately.

4.8.1.2 Coding

Moving on now to consider coding, it was the next step after transcribing and organising interviews. Coding allowed the researcher to understand the experience from the participants' points of view (Sutton and Austin, 2015). The researcher categorised transcripts into reduced components under relevant criteria, and then examined, compared, and conceptualised the data (Cohen *et al.*, 2018:668). The researcher started open coding line by line and phrase by phrase as noted by Cohen *et al.* (2018) and highlighted each transcript's critical points to link them to the concept. Compared to other types of coding, such as analytic coding and axial coding (Cohen *et al.,* 2018), open coding allowed the researcher to unfold all the potentiality and possibility of the data (Corbin and Strauss,

2008). The data collected from the three groups qualitatively were compared to find differences or similarities in how participants' experiences differ from each other.

Coding led the researcher to generate themes. Based on the repetition of ideas, comparisons, and keywords during coding (Ryan and Bernard, 2003), the researcher arranged the identified codes into feasible themes as researchers start considering the link between the codes and themes and sub-themes in this phase (Braun and Clarke, 2006). Moreover, after diligently examining the context, the researcher prepared to conceptualise and categorise the data (Corbin and Strauss, 2008). Alongside this, the researcher read the transcripts several times and categorised them into several themes such as *the impact on higher education and country, experience, and aspiration to emigrate*. This approach is not just taking phrases from the transcripts and putting them into themes but instead choosing *the right words* that describe the concept to their best (Corbin and Strauss, 2008:160). These categorical themes are more abstract rather than specific because all the data in transcripts must *fit in* the groups accordingly (Cohen *et al.*, 2018:671), and that way, themes differ from coded data (Braun and Clarke, 2006). In addition to the mentioned themes, the researcher created a theme called *Others* which contained other generated codes that seem to associate with no other fundamental themes. Braun and Clarke (2006:90) recommend this approach because researchers do not know whether it was needed to merge, split, or even dispose of them during this phase.

4.8.1.3 Analysing

Turning now to analysing the data, the researcher continued reviewing and analysing the data within the generated themes to identify the themes' core representation. This procedure is essential because some competent themes might fail due to lack of data whilst others might be merged into each other to form one theme; one theme might be separated into different themes during revision (Braun and Clarke, 2006). Thus, the researcher invested more time in revising the themes to develop *credible findings*, which is one of the ways Lincoln and Guba (1985:301) suggested to increase the chance to obtain an accurate outcome. However, the most critical principle to consider during this phase is to avoid being like *Cinderella's stepsisters*, pushing the data into the analysis (Braun and Clarke, 2013:234).

Having revised the main themes, the researcher witnessed various individual experiences, opinions, and emigration aspirations in different groups. Then, the researcher generated additional sub-themes through the refining process. Consequently, generating sub-themes was effective in structuring main and compounded themes and systematically

demonstrating the meaning of data (Nowell *et al.*, 2017). This phase is critical because researchers can determine their themes and refine those that fail to be a theme (Braun and Clarke, 2006). Before this stage ended, the researcher found that some themes had less data, whilst some had more. Despite their sizes, the researcher kept all of them because, as Braun and Clarke (2013) note, having the exact data size in themes is not a must. Furthermore, the researcher carefully chose the most suitable theme names and briefly summarised them to avoid a lack of *conceptual clarity* of all themes and planned the final report (Clarke *et al.*, 2015). In the chapter that follows, the researcher discusses reporting the findings.

4.8.2 Quantitative Data Analysis with SPSS

The researcher analysed the survey data and interview transcripts separately. Before analysing the survey, the researcher first checked for any missing values to prevent their negative impact on the results. Hence, the researcher specified any missing values in SPSS as 99 that did not match any other values in the data set. Then, the reliability of the scale variables was checked based on Cronbach's alpha value, which was .767.

Then, to analyse the quantitative data, the researcher conducted the descriptive statistical analysis using IBM SPSS Statistics (Version 24.0) to report the results found. Descriptive statics does not make inferences or predict, but it describes and presents survey data concerning frequency analysis (Cohen *et al.*, 2018). The researcher used frequencies and percentages to describe the research variables such as gender, educational and regional background, the graduates' opinions on the internationalisation of higher education, and their experiences after the return.

4.9 Ethical Issues

4.9.1 Ethical Issues for Qualitative Approach

As noted above, ethical clearance was sought from the College of Social Sciences at the University of Glasgow (Appendix 1) prior to undertaking any fieldwork and data collection. Once the ethical approval was granted, the researcher began recruiting's through emails and WhatsApp calls. Due to the global circumstances (COVID-19), the researcher did not take face-to-face interviews but used all possible communication tools such as Zoom, Skype, and WhatsApp (voice and video calls) to interview the participants. During the recruitment process, the researcher clearly explained the purpose of the study to the participants. Then, the researcher asserted that participants' data were guaranteed to be protected and inaccessible to others except for the researcher and supervisors. This

procedure is suggested by Davis (1995). However, before the actual interviews, the participants familiarised themselves with the plain language statement (PLS) (Appendix 2), and consent forms signed by some of them (Appendix 3). However, some others preferred to consent orally at the beginning of the virtual interview. In the PLS form, it was clearly stated that their personal data would be confidential.

In terms of the confidentiality of participants in qualitative data, de-identification and anonymisation strategies are crucial. The former refers to de-linking the data with its owner, whereas the latter adds a layer of privacy by removing any potentially identifying information from the data to protect the participants (Kushida et al., 2012). Likewise, Clark (2006) asserts that the anonymisation process is crucial to protect participants, especially when confidential and sensitive data might have been revealed.

Considering these confidentiality issues, the researcher assigned pseudonyms such as G1, IE1, and UM1 depending on their groups to participants' actual names to de-identify participants' full names. Then, the researcher broadened the participants' location, so it was impossible to identify them through the context (a university, city, or country). This strategy is considered by Clark (2006) as further protection for participants from being stigmatised. This process happened continuously during the entire research process because anonymisation is a matter of ethics (Clark, 2006). Furthermore, to make sure the participants were unidentified, the researcher followed the de-identification guidelines in the Qualitative Data Repository (n.d.) to manage the data obtained because it is mainly the researchers' obligation to approach the *rights, needs, values, and desires* of the participants with high regard (Creswell and Creswell, 2018:328).

The researcher transcribed the interviews and kept them encrypted. They were safely stored following the guidelines by DMP from the University of Glasgow. The data were kept in the researcher's personal laptop because it provided the researcher with unlimited access to the data at any time. To encrypt the data, the researcher followed the IT staff's recommendation from the IT Help Desk of the University of Glasgow. Accordingly, the files were protected by assigning passwords. Also, all the data were uploaded to the university's secure Cloud Drive to avoid data loss.

Furthermore, when recruiting the participants, the researcher provided no financial incentives to any of them. However, when the researcher contacted one potential participant, the researcher was required some financial incentives. However, the researcher refused, and the interview was not conducted. Other than that, all participants voluntarily took part in the study, and incentives were neither required nor provided.

4.9.2 Ethical Issues for Quantitative Approach

As mentioned earlier, during one of the virtual interviews, an interviewee offered access to the body of scholars for collecting data quantitatively. Having accepted the offer, the researcher applied for ethical amendment for permission to collect additional survey data from returned graduates to generalise the findings among the group. After the ethical amendment approval (Appendix 4), the researcher designed and distributed the questionnaire through MS Forms as other Online Surveys do not support the languages required. Also, such an online survey is advantageous in terms of the identifiability of respondents compared to email surveys through which individuals cannot de-identify themselves in case they prefer to remain unidentifiable (Cohen et al., 2018).

In the purpose of applying preventive measures, individuals were not required to identify themselves by providing their names, addresses, or other private data (Singer, 2008:79). The researcher used ID numbers for each respondent instead. However, at the end of the questionnaire was a section where participants left their contact details voluntarily for the next phase of the study, which is the semi-structured interview. A few of them who did not mind participating in an interview left their emails and phone numbers voluntarily for the researcher to contact in the following research phase. Their contact details and other open-ended questions were separated from the primary quantitative data and stored in a secured folder as recommended by Singer (2008).

The researcher's affiliation was included on the front page of the survey to avoid the respondents' mistrust of the questionnaire because they might think that the survey is simply a marketing ploy (Cohen *et al.*, 2018). Also, informed consent is provided so that the respondents may opt out of responding at any convenience if they decide so. So, the landing page of the survey features a question about consent – only after consenting can participants access the survey.

4.10 Conclusion

This section has reviewed the researcher's worldview; research design, data collection tools applied, ethical issues, and data analysis. The research has explored the PhD graduates and intellectual emigrants' experience, emigration aspirations, and impact on internationalising Kazakh higher education institutions after their return or emigrating, respectively. It is worth exploring what impact long-term external academic mobility has on academia and the country. The researcher approached this issue from the three different groups' perspectives to obtain objective findings. They are returned graduates, university

managers, and intellectual emigrants. Also, the researcher could find if the Kazakh government's approach to brain gain is appropriate and provide suggestions to improve their approach to brain gain and brain circulation.

Furthermore, the study investigated if the returned PhD graduates aspire to emigrate, and what exactly influences their aspirations (if any) was explored. The researcher can propose necessary advice for policymakers to immediately attempt to avoid possible brain drain, which is one of the issues the government faces (Simakova, 2019). The researcher applied the sequential explanatory mixed-method research design, holding to the pragmatism worldview (Creswell and Creswell, 2018; Creswell and Vicki, 2018; Teddilie and Tashakkori, 2009; Hanson, 2008) to address the issues. Furthermore, it can be seen from data analysis that qualitative data played a major role in the research and was indicated as QUAL, whereas the quantitative part played a supplementary role (quan).

The researcher applied a semi-structured interview virtually with the three groups and an additional survey with all the graduates with foreign degrees to generalise the findings to all graduates with foreign degrees in Kazakhstan. The following chapter will summarise the main findings, followed by the discussion chapter. The limitations will be considered in the conclusion chapter.

5 Results

5.1 Introduction to Quantitative Results

The purpose of the survey was to explore: the graduates' educational background, their motivation to study abroad, and reasons for them to return to Kazakhstan after obtaining their degrees. Furthermore, it attempts to quantitatively explore their experience in their country of origin and emigration aspirations after their return. The first section starts with examining the respondents' educational background, employment status and sector of employment. Next, it shifts to analysing their opinion on the internationalisation of Kazakh higher education. Then, pull and push factors are explored based on multiple response analysis. Finally, having examined their circumstance after returning from abroad and their plans for the future, the researcher concludes the quantitative data results section.

5.1.1 Demographic Background

The first set of questions in the survey aimed to explore graduates' educational and employment backgrounds. More specifically, this section of the questionnaire required respondents to give information on their foreign study destinations, source of finance, the level of their foreign degrees, duration of their foreign study, and employment status and sectors. To that aim, the researcher organised this section based on nine variables focused on the respondents' background information. The researcher used frequency analysis to summarise the nominal and scale variables.

5.1.2 Gender and Age

This section describes the demographic background of the survey respondents. It includes their age, gender, current region, and educational background. Table 5-1 below gives information about the number of participants and their gender and age. By the end of the survey period, data had been collected from 123 individuals, 63 of whom were females (51.2%), and 60 (48.8%) were males. While, the overall response rate for the survey could be considered relatively small, as there are over eight thousand graduates who fulfilled their commitment to work in Kazakhstan after their return from abroad (Bolashak, n.d.), it is still considered to give useful insights into a range of issues and large enough for the statistical analysis undertaken for the thesis.

Regarding the respondents' age range, most participants are in their mid-30s. Male samples (M – 33.83; SD – 6.087) are very slightly older than the females (M – 33.67; SD - 6.180).

However, the maximum age for males is 49, whereas it is 54 for females. In contrast, the minimum age for females is 23, and 24 for males.

Table 5-1 Descriptive Statistics for Gender and Age

Gender	Mean	N	Std. Deviation	Minimum	Maximum	Std. Error of Mean	% of Total N
Female	33.67	63	6.180	23	54	.779	51.2%
Male	33.83	60	6.087	24	49	.786	48.8%
Total	33.75	123	6.110	23	54	.551	100.0%

However, having run an Independent-Samples T-Test to see if there was a difference in the means of the ages, the researcher found that there was not a statistically significant difference in means of both genders' ages at a significance level of five per cent because equal variances assumed scores showed p-value as equal to .881.

5.1.3 Current Region

The following pie chart (Figure 1 Descriptive Statistics for Current Region) illustrates the respondents' current region in Kazakhstan. Respondents from 14 regions of Kazakhstan completed the questionnaire and from three foreign countries such as Turkey, the US, and the UK. What stands out in the pie chart is that 63 of the respondents (51.22%) indicated their current region as Nur-Sultan (capital city), followed by Almaty for 36 respondents (29.27%). Other cities such as Shymkent and Turkistan followed the significant cities with three respondents (2.44%) in each region. Interestingly, some respondents showed their current region as the US, the UK, and Turkey indicating that graduates had not returned to their home country and remained in the countries of study. However, a subsequent analysis employing crosstabulation (Appendix 10) reveals interesting findings within the subset of participants indicating their current location as abroad. Among these participants, one individual who graduated from a US university in 2006 completed their degree more than five years before the survey, while two participants graduated in 2020 (Turkey) and 2021 (UK), respectively. These findings suggest that one participant has satisfactorily fulfilled

their Bolashak contract, whereas the remaining two participants are still obliged to fulfil their Bolashak responsibility despite currently being abroad.

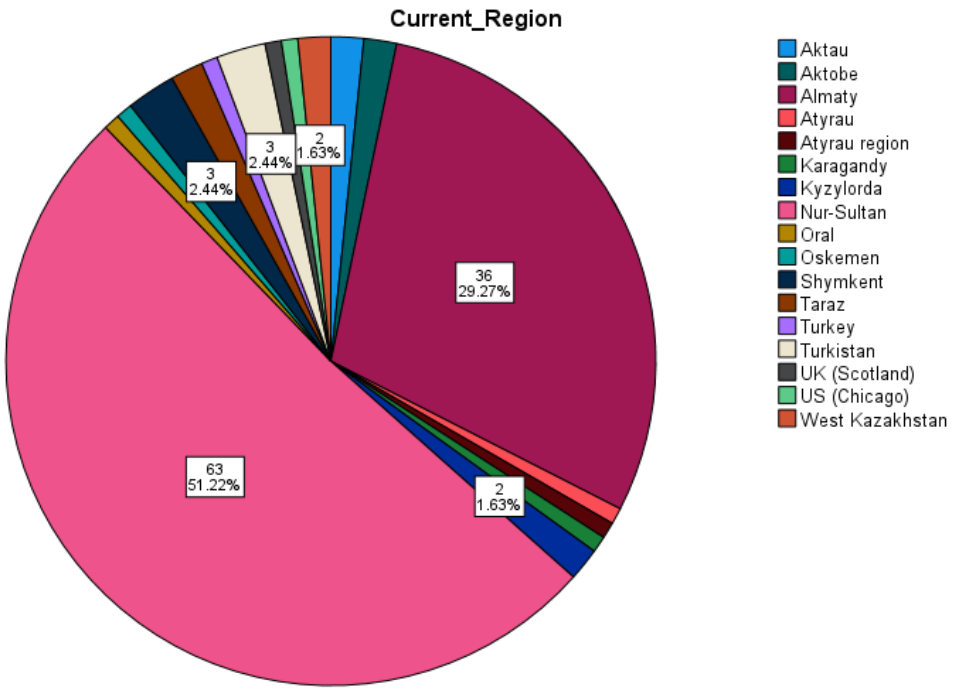

Figure 1 Descriptive Statistics for Current Region

5.1.4 Foreign Highest Qualification

Table 5-2 illustrates that 91 respondents (74%) indicated the master's degree as their highest foreign degree certificates, followed by 11 PhD holders (8.9%) who graduated from foreign universities. However, the participants with bachelor's degrees (4.1%), Interns holders (2.4%), and Fulbright scholarship holders (0.8%) are very few.

Table 5-2 Descriptive Statistics for Education Background

		Frequency	Percent
Valid	Bachelor's degree	5	4.1
	Master's degree	91	74.0
	Internship	3	2.4
	PhD degree	11	8.9
	Fulbright research scholarship	1	.8
	Total	111	90.2
Missing	System	12	9.8
Total		123	100.0

5.1.5 Year Graduated

According to Figure 2 Year Graduated, the distribution of graduation years among the respondents is left-skewed, with most graduates earning their degrees between 2014 and 2021. The Median for the graduation year is 2018. However, those who graduated in earlier years were much less active in participating compared with the recent graduates.

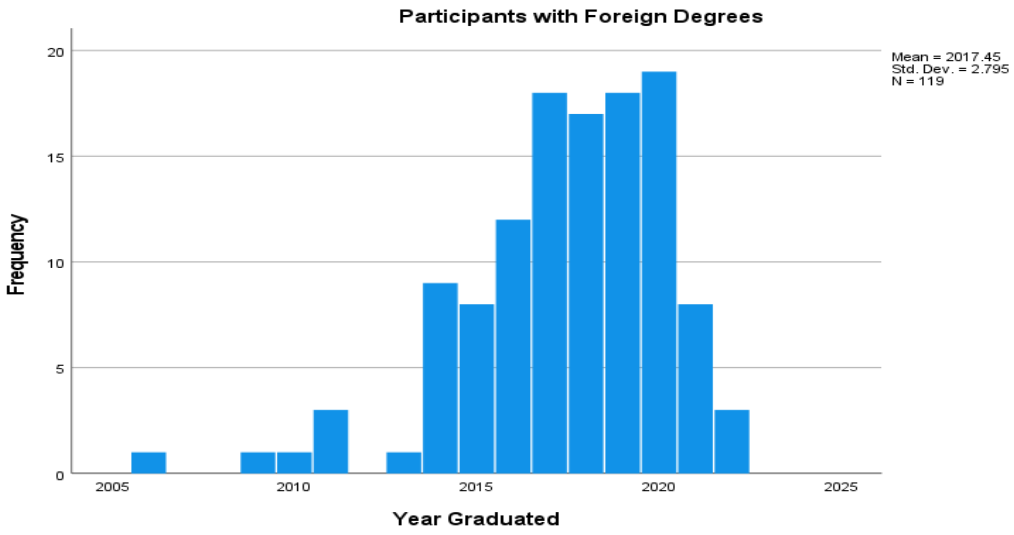

Figure 2 Year Graduated

5.1.6 Source of Finance

Figure 3 below illustrates the primary financial resources for the participants' study abroad. As shown in Figure 2, 109 participants (88.6%) studied abroad under government support based on the Bolashak Scholarship initiated by the ex-president, Nursultan Nazarbayev, on November 5th, 1993 (Bolashak, n.d.). Seven participants (5.7%) studied abroad based on foreign grants. Others, however, used their private financial resources (2.4%) and the resource of the universities at which they worked or studied (2.4%).

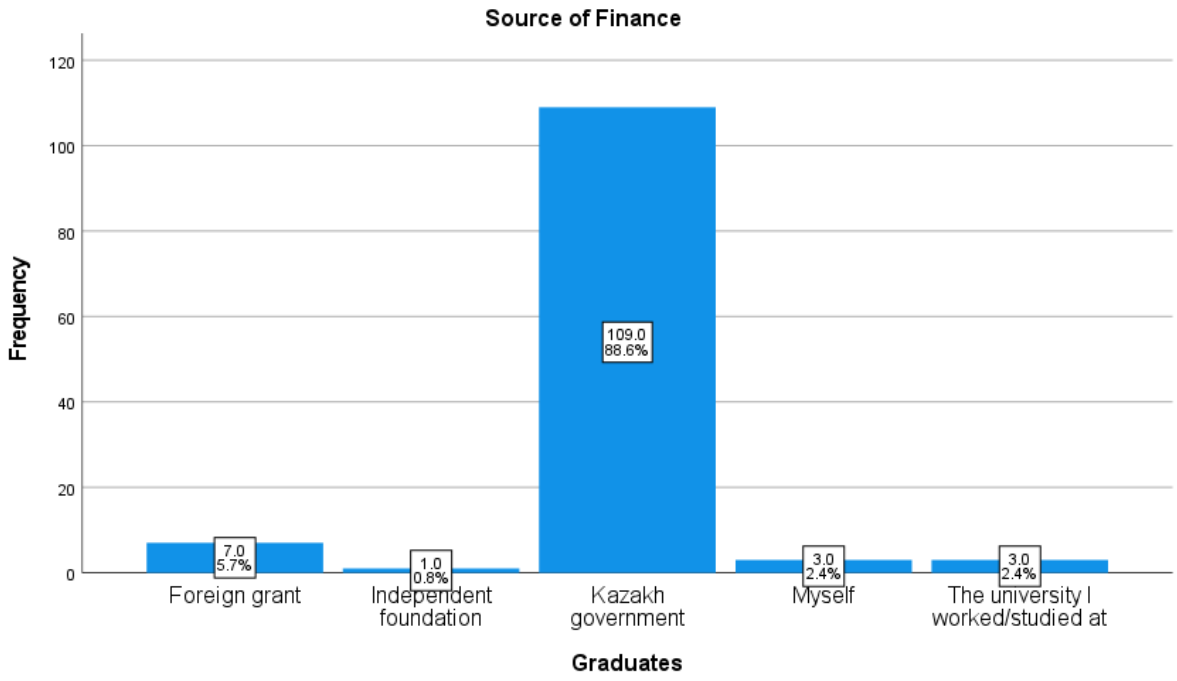

Figure 3 Source of Finance

5.1.7 Country of Study

Regarding the participants' study destination (Figure 4), the UK and the US are the most attractive place to study. For instance, 74 participants (60.2%) indicated that they obtained their degrees in the UK, whereas 26 participants (21.1%) chose the US as their study destination. However, Turkey is the third top country among the respondents; 9 graduates (7.3%). The number of participants who studied in Russia and Australia comprised five (4.1%) and three (2.4%), respectively. Only one participant (0.8%) responded from each country such as Egypt, Finland, Indonesia, Netherlands, South Korea, and Switzerland.

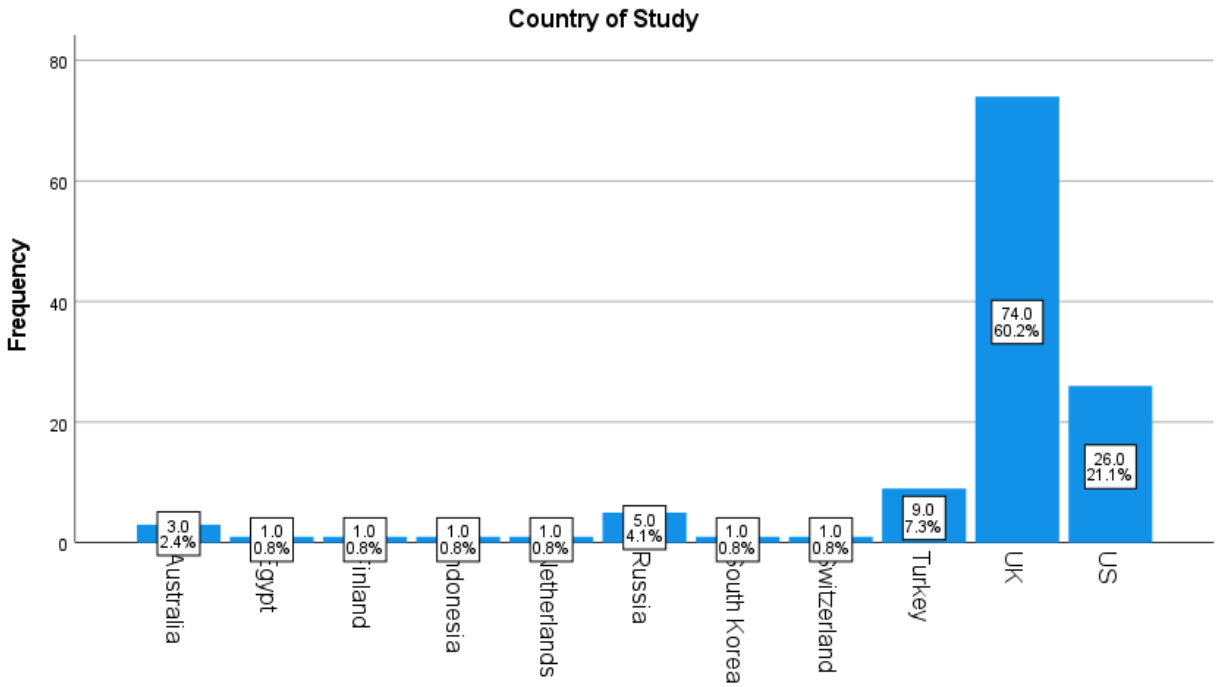

Figure 4 Country of Study

5.1.8 Duration of Studies Abroad

Since there are different types of academic mobility in Kazakhstan, the researcher tried to identify the types of academic mobility participants experienced. As shown in Figure 5, the majority of participants experienced long-term external academic/degree mobility. The whole study of 103 respondents (92.8%) was overseas. However, only one respondent took part in short-term academic mobility, whereas seven respondents experienced internships abroad.

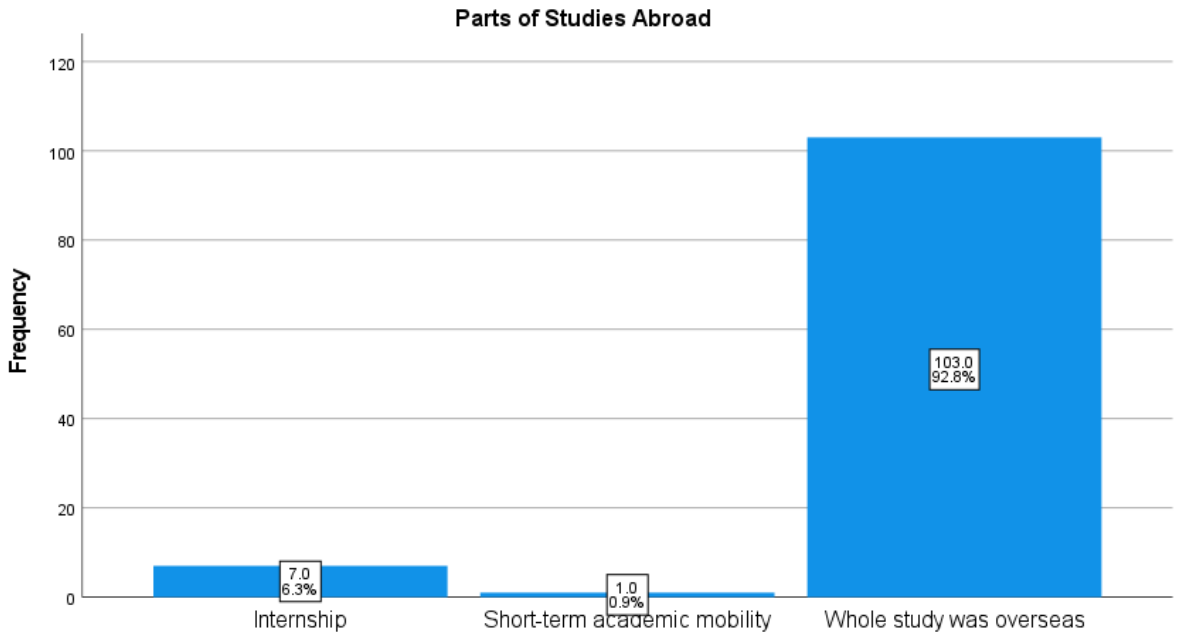

Figure 5 Parts of Studies Abroad

5.1.9 Current Employment Status

Further frequency analysis on the graduates' *current employment status* showed that 79% are employed full time and a further 6% employed part time; while 7% were on either paternity or maternity leave, 4% unemployed and looking for a job with the few remaining self-employed (1.6%) or PhD students (1.6%). What is striking about these data is that it can be seen as a success of Bolashak that so many are working full time upon return. However, it would be more informative to delve into their experiences qualitatively to see if the graduates' career experience upon return is as successful as their employment status.

5.1.10 Employed in Higher Education

According to Table 5-3 below, fewer respondents work in higher education institutions. For instance, 50 respondents (40.7%) indicated that they work in Kazakh higher education institutions. Notably, within this subgroup, eight returned PhD graduates (20%) made the deliberate decision to pursue careers in the realm of higher education (refer to Appendix 11 for detailed data). However, 73 respondents (59.3%) chose not to work at universities in Kazakhstan after their graduation. Specifically, three of returned PhD graduates (4.2%) opted not to pursue careers in this field (Appendix 11). Despite Bolashak's attempt to improve higher education quality, this is an important point to investigate to understand the reasons behind their choices. It will be explored in more detail in the section presenting the qualitative analysis.

Table 5-3 Employed in Higher Education

		Frequency	Percent
Valid	No	73	59.3
	Yes	50	40.7
	Total	123	100.0

Furthermore, in the following table (Table 5-4), the respondents employed at higher education described their universities. Based on the multiple response rate of 50 graduates (Table 5-3), 40.0% reported their universities as *Pedagogical University* followed by *Technical University* (32.0%). Twenty per cent of the respondents chose to work in *Research Centres*.

However, the number of graduates in other institutions such as Medical universities, Law and Business universities is small, according to Table 8 below. For instance, the table shows that only 10% of graduates with foreign degrees work at Medical universities, 6.0% at Law and 4.0% at Business universities. However, the rest of the participants (6.0%) chose *Other* to describe their universities.

For the purpose of mitigating potential misinterpretation, one needs to provide clarification regarding both the quantity of responses received and the corresponding percentages of cases. It is worth noting that the numerical figures denoting the number of responses and the respective percentages surpass the actual count of individual respondents. This observation suggests the likelihood of certain respondents being affiliated with multiple distinct universities (see Section 2.2.1.1), thereby warranting the acknowledgement of potential dual institutional associations. The underlying rational behind the observed phenomenon, which entails a cumulative sum exceeding 100%, is assumed to stem from these factors. The following sub-section considers the respondents' career change decisions.

Table 5-4 Current University Description (Frequencies)

		Responses	Percent of
		N	Cases
Current university description[a]	Pedagogical university	20	40.0%
	Research Centre	10	20.0%
	Technical university	16	32.0%
	Medical university	5	10.0%
	Law university	3	6.0%
	Business university	2	4.0%
	Other	3	6.0%

Total	59	118.0%

a. Dichotomy group tabulated at value 1.

5.1.11 Career Change after Graduation

When the respondents were asked whether they had changed their careers after obtaining their degrees, 93 respondents (75.6%) chose *No* (see Appendix 12). It is noteworthy that neither of the returned PhD graduates opted to change their careers after graduation (Appendix 13). It means they have been working in Kazakhstan according to their foreign degree specifications because based on the agreement between Bolashak and the graduates, the graduates must work in Kazakhstan in areas linked to their foreign degrees for between two and five years depending on their regional location (Bolashak, n.d.). On the one hand, this policy seems advantageous in terms of brain gain. On the other hand, as will be shown later, interview participants note that these strict rules are *incorrect philosophy* (IE3) because it limits prospective brain circulation and potentially leads to knowledge and skills degradation. This opposing point will also be considered in the qualitative section of the results chapter.

However, almost a quarter of respondents (24.4%) indicated that they had already changed their careers after graduation. It may apply to the graduates who fulfilled their duties according to the contract or to those who studied abroad without a Bolashak scholarship. According to the earlier results (Figure 3), most respondents studied abroad based on government support, which means a Bolashak scholarship. The following section describes the graduates' opinions on the internationalisation of Kazakh higher education institutions.

5.1.12 Opinions on the Internationalisation of Higher Education (IHE)

Based on nine Likert-scale items in the survey, this section attempted to explore the respondents' opinions on the internationalisation of Kazakh higher education and the positive and negative impact of studying abroad on the source countries. Due to the low response rate among the participants with bachelor's and PhD holders and with internship experience (except master's degree holders), the respondents' opinions were analysed as one group without being split.

Table 5-5 indicates that most respondents noted a large proportion of agreement regarding the impact of internationalisation on higher education. For example, *Agree or strongly agree* responses regarding the statements *IHE leads to cultural diversity* (90.2%), Important step towards *brain circulation* (89.4%), *IHE increases the standard of HE*

(82.9%), *IHE facilitates socio-economic development of Kazakhstan* (79.7%), *IHE enhances teaching quality at Kazakh HE* (78.9%), and *Studying abroad is an important step towards brain gain* (76.4%), can be the indicator of that. On the other hand, the percentages of those who chose to *Disagree or strongly disagree* and *Neither agree/disagree* were less than 6% and 18%, respectively.

However, respondents' opinions were not significantly unanimous in the view of the three statements. For instance, 44.7% of participants neither agreed nor disagreed with the statement that *IHE decreases the dependence of HE on the government fund* whereas 44.7% of respondents agreed or strongly agreed with the statement. Those who disagreed or strongly disagreed with the statement comprised 10.6%, which shows that only a small number of participants take a pessimistic point of view in terms of the advantage of the internationalisation process to Kazakhstan universities. Their pessimism could be due to certain barriers to the internationalisation of Kazakh universities, which is explored qualitatively later in section 5.2.3.

Furthermore, concerning the impact of IHE on the local language status, two divergent and opposing groups emerged. For instance, although most respondents (43.9%) disagreed or strongly disagreed with the negative impact of IHE on the local language, there were respondents (30.9%) who thought that the Kazakh language could be negatively affected if English is used as the only language of instruction at Kazakh higher education institutions. Regarding this statement, 25.2% of respondents decided to choose a neutral point of view.

Moreover, although not unanimously, the majority of respondents (40.7%) showed their concern by agreeing or strongly agreeing with the statement *'Studying abroad lowers the chance of graduates to return'*. However, whilst a minority (28.5%) held a neutral view, 30.9% of respondents did not think that studying abroad can negatively affect individuals' decisions to return from their country of study. From the percentages regarding the last three statements, one can see that the respondents' opinions differ significantly compared to other statements mentioned in the earlier paragraphs. The following section considers the factors that affected respondents' decision to study abroad.

Table 5-5 Opinions on Internationalisation of Higher Education in Kazakhstan

	Disagree or strongly disagree	Neither agree/disagree	Agree or strongly agree
IHE Leads to Cultural Diversity	3.3%	6.5%	90.2%

Studying Abroad is an Important Step towards Brain Circulation	0.8%	9.8%	89.4%
IHE Increases the Standards of HE	5.7%	11.4%	82.9%
IHE Facilitates Socioeconomic Development of Kazakhstan	4.9%	15.4%	79.7%
IHE Enhances Teaching Quality at HE in KZ	5.7%	15.4%	78.9%
Studying Abroad is an Important Step towards Brain Gain	5.7%	17.9%	76.4%
IHE Decreases the Dependence of HE on the Government Fund	10.6%	44.7%	44.7%
Studying Abroad Lowers the Chance of Graduates to Return	30.9%	28.5%	40.7%
Teaching Only in English Decreases the Status of KZ Language	43.9%	25.2%	30.9%

5.1.13 Factors Affected Study Abroad

5.1.13.1 Factors Affected the University Choice

The researcher analysed the multiple response variables that focused on the factors that affected the graduates' decisions to study at the university of choice. Accordingly, Table 5-6 indicates the most and the minor influential factors for their choice of the universities to study. The data results strikingly indicate that the most influential factor was the rank of their universities (55.7%). The second most influential factor for the respondents was teaching quality at the university of choice (49.2%). Universities' ability to provide authentic specialities for students (50.0%) was among the respondents' top three attractive factors.

However, of the 122 survey participants who responded to the multiple response questions, just over five per cent (5.2%) indicated that student reviews on the university websites and other factors affected their decisions to choose the university. Also, the minor affective factors for the graduates with external academic mobility experience from Kazakhstan

were memorandum between universities and grants provided by host universities. All these were pull factors that attracted the respondents. Similarly, the quality of education was one of the major reasons for interview participants as well. However, they mentioned other factors such as university facilities and their supervisors as the influential factors for their choices (see Section 5.2.4.2).

Table 5-6 Factors affected to choose the university (Frequencies)

		Responses	Percent of
		N	Cases
Factors affected to choose the university[a]	Its ranking	68	55.7%
	It provided the exact speciality I wanted to study	61	50.0%
	Teaching quality at the university	60	49.2%
	Memorandum between the foreign and Kazakh universities	13	10.7%
	Student reviews on the university webpage	12	9.8%
	Other	12	9.8%
	Grant provided by the host university	5	4.1%
Total		231	189.3%

a. Dichotomy group tabulated at value 1.

5.1.13.2 Surroundings Influenced Study Abroad

Furthermore, when the participants were asked who influenced them to study abroad, the majority responded as *Myself* (78.7%), as shown in Table 5-7. It indicates that graduates are self-motivated to achieve foreign degrees because of their enthusiasm. The second top influence source for the respondents to study abroad was their local friends (25.4%), followed by their parents (16.4%). These are the top three most influential groups of people for the respondents.

However, from Table 5-7, it can be seen that the least important sources of influence for the respondents to study abroad were *Colleagues* (10.7%), *Teachers* (7.4%), *Partners* (6.6%), and *Foreign friends* (3.3%). Interestingly, the data suggests that teachers are much less influential on the graduates to obtain foreign degrees than the graduates' friends and parents even though the universities in Kazakhstan have focused on academic mobility

since the time Kazakhstan joined the Bologna process. This issue might bear further investigation.

Table 5-7 Influencers (Frequencies)

		Responses	
		N	Percent of Cases
Influencers[a]	Myself	96	78.7%
	Kazakh Friend(s)	31	25.4%
	Parent(s)	20	16.4%
	Colleague(s)	13	10.7%
	Teacher(s)	9	7.4%
	Partner(s)	8	6.6%
	Foreign friend(s)	4	3.3%
	Other	4	3.3%
Total		185	151.6%

a. Dichotomy group tabulated at value 1.

5.1.13.3 Motivation to Study Abroad

The table below illustrates some of the primary motivations for the respondents to pursue a degree abroad. It can be seen from the data in Table 5-8 below that the graduates were motivated by mostly *Better knowledge in foreign universities* (67.5%), *Better career opportunities after returning to Kazakhstan* (54.5%), and *Cultural experience* (49.6%). Also, the Kazakh government played a significant role in motivating the participants to study abroad (50.4%). What is interesting about the top four motivational factors in Table 5-8 is that *'Better career in Kazakhstan after returning'* follows immediately after *'Better knowledge in foreign universities',* which might represent the respondents' expectations after returning to their home country.

Furthermore, other motivational factors were *enthusiasm to improve their foreign language competence* (39.8%), *the value of foreign degrees from the country's perspective* (35.0%) as well as *personal perspectives* (28.5%), and *better career opportunities abroad* (22.0%). Interestingly, among the respondents were those who *just wanted an international degree* (27.6%). These factors, however, were less motivational compared to the previous ones in the earlier paragraph. These figures show that although the respondents were less motivated by foreign career opportunities than their career prospects in Kazakhstan, Table 5-8 indicates that some participants were motivated by *foreign career possibilities* (22.0%) and *emigration to the country of study in the future* (4.9%).

In addition, without being limited to motivational factors, Table 5-8 shows three push factors for the participants to pursue their degrees abroad. They are the *limited number of*

disciplines (13.0%) in higher education institutions, *high competition* (3.3%), and *high level of bribery* (6.5%) to get accepted to universities in Kazakhstan. Although response rates for these items were much lower than the earlier motivational factors, it can be considered necessary to raise these issues in interviews as well.

In the context of examining the group of returning PhD graduates, it becomes evident, as revealed in Appendix 14, that their motivational factors align closely with those of the broader survey group. Notably, factors such as 'Better knowledge in foreign higher institutions' and 'Better career opportunities after returning to Kazakhstan' emerge as compelling drivers for the PhD graduates. While the data indicates that only one PhD graduate is motivated by 'Better career opportunities abroad', it is conceivable that certain individuals among the PhD graduates may contemplate international career prospects following their graduation, if not the entire group.

Taken together, these results suggest that the graduates were not only motivated by better knowledge in foreign universities and enhanced job opportunities in Kazakhstan after their return but also by foreign career opportunities. Also, some of them showed aspiration to emigrate in the future after graduation. These can be considered pull factors, whereas a limited assortment of disciplines, high level of competition and bribery at Kazakh universities can be considered push factors for the respondents, which needs to be shed light on in more detail. These factors are raised in the qualitative section and discussion chapter too as it is one of the areas on which this study focuses.

Table 5-8 Factors motivated to study abroad (Frequencies)

		Responses	Percent of
		N	Cases
Factors motivated to study abroad[a]	Better knowledge in foreign higher institutions	83	67.5%
	Better career opportunities after returning to Kazakhstan	67	54.5%
	I got a scholarship from the Kazakh government	62	50.4%
	Cultural experience	61	49.6%
	I wanted to improve my foreign language competence	49	39.8%
	Foreign degree is highly valued in Kazakhstan than the local one	43	35.0%
	It is highly valued on my resume	35	28.5%

I just wanted an international degree	34	27.6%
Better career opportunities abroad	27	22.0%
Kazakh higher institutions did not have the discipline I preferred	16	13.0%
High level of bribery to get accepted to universities in Kazakhstan	8	6.5%
Other	7	5.7%
To emigrate in the future to the country I studied	6	4.9%
I got a scholarship from a foreign university	6	4.9%
Because it is popular these days	4	3.3%
Too high competition to get accepted to universities in Kazakhstan	4	3.3%
My family wanted me to study abroad	3	2.4%
Total	515	418.7%

a. Dichotomy group tabulated at value 1.

5.1.14 Wish to Return and Stay

Along with the factors that influenced the graduates' decisions and motivations to study abroad, the researcher tried to explore their will to return and stay in the country after graduation. Interestingly, according to the results, the vast majority of respondents (72.4%) wanted to return to Kazakhstan, and only 27.6% were attracted to stay in the country of study. Factors which influenced the graduates to return or stay abroad are examined in more detail in the qualitative section (see Section 5.2.6).

5.1.14.1 Return Reasons

When the graduates were asked what made them return, *Contract with the government* was the most frequent response (76.4%). In addition, respondents who indicated an interest in returning wanted to *apply their knowledge in their country of origin* (66.3%). Another reason they returned was because of *family commitments* (43.8%) as the top third reason for the graduates. Surprisingly, however, items such as *moral obligation* (41.6%) and *national pride* (27.0%) were amongst the least frequently cited influences by the graduates (Table 5-9).

As mentioned earlier, those who study abroad on a Bolashak scholarship are required to sign a bilateral or trilateral agreement that puts legal force on them to return and work for two to five years depending on their work conditions. What stands out in the data is that signing a contract with the government before obtaining knowledge abroad plays a significant role to lure back the respondents after they graduate from top foreign universities. Possible explanations for the lower percentages for moral obligation and national pride and the higher percentages for contractual reasons and a desire to apply their knowledge locally are examined in more detail in a subsequent section. On the other hand, interview participants consider the return policy as outdated because it limits brain circulation in modern times (see Section 5.2.8).

Table 5-9 Return reasons (Frequencies)

		Responses	
		N	Percent of Cases
Return reasons[a]	Contract with the government	68	76.4%
	I wanted to apply my knowledge in Kazakhstan	59	66.3%
	Family commitments	39	43.8%
	It was my moral obligation	37	41.6%
	National pride	24	27.0%
	Other	1	1.1%
Total		228	256.2%

a. Dichotomy group tabulated at value 1.

5.1.14.2 Wish to Stay

The next set of items in the multiple response analysis focused on the pull factors that attracted the respondents to stay in the country of study (Table 5-10 Wish to Stay (Frequencies). From the table, one of the most significant attractive factors for the respondents was *high salary* (88.2%). It was followed by *better career opportunities* (76.5%) for the graduates. Furthermore, what is striking about the figure in this table is that the items such as a *better future for their children* (58.8%) and a *better working environment* (58.8%) were chosen the same number of times and were amongst the top three influential factors for their aspiration to stay in the country of study.

Moreover, although it is not amongst the top three pull factors, it can be seen from this table that the respondents value the *competence of their colleagues* (52.9%) at the higher education institutions from which they graduated. As shown, marriage was cited twice as a

reason to remain abroad although this may also be linked to broader aspirations for a better quality of life in the future. Interestingly, despite the opportunity to provide alternative reasons no respondents provided other additional pull factors. The following section considers the experience of the graduates after they returned to Kazakhstan. These pull and push factors were also the subject of discussion in the interviews and will be explored further in Section 5.2.6.

Table 5-10 Wish to Stay (Frequencies)

		Responses	
		N	Percent of Cases
Stay reasons[a]	Job opportunities with high salary	30	88.2%
	Better opportunities for my career progress	26	76.5%
	Better future for my children	20	58.8%
	Better working environment	20	58.8%
	Highly competent colleagues	18	52.9%
	Marriage	2	5.9%
Total		116	341.2%

a. Dichotomy group tabulated at value 1.

5.1.15 Experience after Return

It needs to be clearly noted that this study does not focus on the respondents' study experience abroad. However, the following multiple response analysis results (Table 5-11) explore the respondents' experience after returning to Kazakhstan. It included eighteen items generated based on the previous studies and preliminary interviews with one participant in each group of participants. This table is quite revealing in several ways. Unlike the other tables, it attempts to explore both the positive and negative experiences of the returners. On the one hand, one can see the positive experience of the graduates from the table. On the other hand, however, it is also evident that some returners had less positive experiences.

First, closer inspection of the table shows that foreign education positively impacts the graduates' career progress as most respondents chose this item (54.5%). This is followed by the ability of the respondents to do research independently (34.1%); and opportunities provided by the graduates' workplaces to develop professionally (20.3%). Further results

show that 18.7% of the respondents indicated that they still collaborated with scholars abroad in their specific fields; and, published scientific papers in Q1-Q4 journals (8.1%).

Moreover, after their return, some graduates do actively engage in policy development at the state level (8.9%), and 8.1% indicated that they had advised policymakers on at least one occasion. Regarding higher education policy in Kazakhstan, 14.6% of the respondents noted that they engaged actively in the internationalisation of Kazakh higher education institutions. However, only one respondent chose to work in less advantageous institutions in Kazakhstan's other regions and this may be related to the conditions of the Bolashak programme which as noted previously reduces the duration of the required period to fulfil their contract. There were also respondents (8.9%) who promoted educational initiatives through interviews in the media. These could be seen as indicators of returned graduates' positive experiences.

Table 5-11 ***Positive experience after return (Frequencies)***

		Responses	Percent of
		N	Cases
Positive experience after return[a]	My foreign degree benefited me in terms of career progression	67	54.5%
	Studying abroad enabled me to do research independently	42	34.1%
	My workplace provides enough opportunities for staff to develop professionally	25	20.3%
	I still collaborate with scholars abroad in my field	23	18.7%
	I engaged in the process of internationalising higher institution	18	14.6%
	I have been privileged within the university more than the local academic staff in terms of research skills	12	9.8%
	I gave educative interviews in media	11	8.9%
	I began engaging actively in policy in Kazakhstan	11	8.9%
	I published scientific articles in Q1 - Q4 journals	10	8.1%
	I have advised policymakers on at least one case	10	8.1%
	Other	3	2.4%

	I prefer to work in less advantageous institutions in regions	1	0.8%
Total		354	287.8%

a. Dichotomy group tabulated at value 1.

However, as noted above some graduates had less positive experiences (Table 5-12). Forty (40) respondents, or 32.5% of the sample, indicated that *they were not interested in working at universities due to low salaries*, whereas 31 respondents reported difficulties integrating into an existing team as *they felt unwelcomed by their colleagues* (25.2%). Thirty respondents, or 24.4% of the sample, reported that *they have limited time to write scientific papers because of an overload work at their job*. Similarly, twelve (12) respondents (9.8%) mentioned that *they expected to do more research in their fields than teaching*. Although the number of those who *stopped their career in higher education* (6.5%) is small, one can see that there are such issues due to *lack of promotions*. These issues were discussed during interviews and not only tended to confirm the results presented above but also provided insights in to other issues such as unfair promotion, being undervalued due to their religious stance, and an unsupportive environment (see Section 5.2.7).

Table 5-12 ***Less positive experience after return (Frequencies)***

		Responses N	Percent of Cases
Less positive experience after return[a]	I am not interested in working at higher institutions in Kazakhstan due to my low salary	40	32.5%
	I felt unwelcomed by my colleagues at my workplace	31	25.2%
	I have minimal time to write scientific papers because of overload work at my job	30	24.4%
	I expected to do more research in my field rather than more teaching	12	9.8%
	I discontinued my career in higher education due to a lack of promotion	8	6.5%
Total		354	287.8%

a. Dichotomy group tabulated at value 1.

5.1.16 Future Plans

The previous sections considered graduates' experience after return. However, this section tried to explore their future aspirations. For that purpose, the researcher used multiple

response frequency analysis. According to Table 5-13, one can see that items such as *'Work in the major cities in Kazakhstan'* (43.9%), *'Work abroad'* (38.2%), and *'Apply for PhD abroad'* (27.6%) were amongst the top choices for the graduates. Interestingly, although the graduates plan to work in major cities of Kazakhstan, overall percentages of plans to either work or study abroad exceed the top choice.

The second unexpected result can be the percentage of the item *'Change my career'* (21.1%). This item was chosen 26 times by the graduates after their return, which indicates there is a trend of career change to some extent amongst graduates with foreign degrees. Furthermore, another interesting result is about the item *'Work in a regional university'* (14.6%). Although there is a Bolashak policy that encourages graduates to work according to their degrees for a specific time period and to work in regions respectively, these two results suggest that there are still issues regarding the implications of the Bolashak policy.

Table 5-13 Future plans (Frequencies)

		Responses	
		N	Percent of Cases
Future Plans[a]	Work in the major cities in Kazakhstan	54	43.9%
	Work abroad	47	38.2%
	Apply for PhD abroad	34	27.6%
	Change my career	26	21.1%
	Work at a regional university in Kazakhstan	18	14.6%
	Work at the previous place	15	12.2%
	Apply for PhD in Kazakhstan	10	8.1%
	Apply for post-doc abroad	9	7.3%
	Other	4	3.3%
	Apply for post-doc in Kazakhstan	1	0.8%
Total		218	177.2%

a. Dichotomy group tabulated at value 1.

5.1.17 Conclusion

The descriptive survey data provided the respondents' background information, including their age, gender, regions, job sectors, and factors that affected their decisions to study abroad and return after graduation. Also, their plans for the future were analysed based on multiple response crosstab analysis. Taken together, the quantitative descriptive data analysis shows that countries such as the UK and the US were the most popular

destinations for the graduates, and the reasons for that choice were better knowledge in the foreign universities and better career in Kazakhstan and abroad after graduation.

Furthermore, although some of them underwent less positive experiences after their return, the results show that their study abroad experiences influenced them positively in doing research independently and collaborating with their foreign colleagues. These results indicate that long-term external academic mobility impacts brain gain and brain circulation attempts of the Kazakh government. To explore these issues from different perspectives, the qualitative analysis involves other groups of participants including university managers and intellectual emigrants.

However, when the graduates' plans for the future were analysed, it became evident that almost half of the respondents had planned to leave the country to apply for jobs and further studies abroad. Furthermore, some of them planned to change their career, whereas very few decided to work in the regions even considering the benefits in terms of a shorter duration of their contract.

To complement the survey findings, the qualitative analysis of the interview data provides more detailed findings regarding their future aspirations. Also, their work experiences after graduation need further attention to explore if there are some other reasons for the graduates to decide not to work at higher education institutions other than low salaries and lack of promotion. So, based on the results, one can say that although the number of respondents is small, there is an association between study abroad and emigration aspiration among the graduates who returned to Kazakhstan. It can be more explorative and productive to focus in through the qualitative data to understand all the mentioned issues more closely and thoroughly from different perspectives. In the following section, the researcher analyses the interview data to explore a number of issues raised by the survey responses in more depth and detail to provide a better understanding of underlying motivations and perceptions.

5.2 Interview Results

5.2.1 Introduction to Qualitative Results

This section addresses the findings from the qualitative data analysis of all groups of participants. Through deductive and inductive approaches, seven main themes were discovered. For more detailed themes see Appendix 5.

5.2.2 Internationalisation in Practice

5.2.2.1 Attempt to Internationalising Kazakh Higher Education

In this section, interviewers of all groups revealed that universities in Kazakhstan are attempting to internationalise themselves. For example, a graduate participant (G7) noted that they involved graduates with foreign degrees and encouraged them to implement what they learnt during their study abroad. The participant also indicated that they see improvements in their teaching programmes.

> *What we did here (at a university in Nur-Sultan), we very much rely on foreign university graduates and particularly Bolashak graduates but not only Bolashak of course. Ninety per cent of the teaching staff are now graduates of foreign universities, Nazarbayev University, and KIMEP… this changed fully the whole structure of our programmes, the contents of our programmes… we started this around six years ago.*

He elaborated on that and described how in addition to improvements in the quality of programmes and in student outcomes, they were able to convince returning graduates to come and work at the university.

> *We invited all these young people who just returned from Bolashak and started their careers in different companies in KZ… we asked them… you started something at your university abroad and just come here and do the same… there is the main guidance we gave them. And since then, I see that everything changed. The content changed very much. (G7).*

This seemingly productive attempt to IHE was echoed by a university manager (UM1), who seems ambitious to become a world-class university by having their university accredited internationally. However, the manager seems more accreditation and financially oriented compared to the previous participant who tended to stress the quality benefits rather than financial. He began by noting that all their university and programmes are accredited by German Accreditation Agencies and that this accreditation meant their diplomas were world-class:

> *the diplomas students receive do not differ from world-class universities' diplomas… so students can get a job anywhere in the world…*

He then proceeded to suggest that this accreditation would also attract foreign students and elevate the university's status to that of a world-class university:

> *we aim to become a world-class university……. To become a world-class university, we need to develop the process of internationalisation, which means involving foreign teachers and students. So, our goal is to become the leader in Central Asia. Second, for example, higher education is expensive in Singapore, Malaysia, and even Uzbekistan.*

And finally, he notes the financial benefits that this would bring:

> *They can easily pay three thousand dollars and get quality education and diploma… (UM1).*

Interestingly, the participant is ambitious and believes that their university has the potential to become a leading Central Asian university by providing quality education for a comparatively affordable price. This can be raised in discussion chapter. Furthermore, one can see that he is also concerned with the quality of some employees' overseas qualifications and named a specific institution as providing poor quality education meaning that returned graduates did not have the expected skills.

> *Therefore, these days we consider what universities applicants graduated from and what countries they studied. Only then we take an interview with them and monitor what they are improving. If no positive results, we look for other candidates. (UM1).*

In an attempt to increase faculty staff quality, some regional universities have taken a similar approach. IE9 suggested that some universities wanted to hire Bolashak graduates to offer instruction in English and were offering increased salaries to them.

Another university manager (UM2) suggested that the number of agreements with foreign universities can be seen as an attempt to internationalise higher education.

> *In total, we have memorandum/agreements with 170 foreign universities. They are general memorandum of cooperation that include academic mobility, exchange professors, organising conferences and seminars, and joint programmes and projects…*

She also mentioned that they receive financial support from the Ministry of Education.

> *inviting foreign top managers like chancellors and vice-chancellors to come to us and work around six months to change and improve our*

> *strategies…* (and) *… to invite foreign professors with high Hirsch index to involve in our research (UM2).*

The financial support also covers foreign managers and scholars' expenses.

This process was echoed by another participant (UM3), who said that she was accepted to work based on strict competition and suggested that this was perhaps a result of changes to senior management and a far more Western approach:

> *I was accepted on strict competitive basis. The university chancellor and many other faculty deans were Americans. To be honest, our situation is different from other Kazakhstani universities as many foreign faculties work here. That is why traditions… everything is different here (UM3).*

This result indicates a different approach to internationalisation through embedding foreign specialists at strategic levels that changed *'everything'* at their university. However, her statement '*our situation is different from other Kazakhstani universities'* reveals that not all universities' conditions are successful in terms of internationalisation. This is interesting to discuss further because this result shows that different universities can have quite different outcomes dependent upon their specific context and approach to internationalisation.

According to UM4's statement, one can see that both top-down and bottom-up approaches are adopted. For instance, when asked about their attempt to internationalise, UM 4 stated:

> *Based on the initiation of the Ministry of Education, our 20 teachers are being taught English by American EL specialists through Zoom… Curricula have been modelled and revised according to American universities' standards… within this year, everything is digitised and access to the internet is provided.*

The statement reveals three different approaches. First, they are increasing faculties' English competence through the initiation of the Ministry of Education. Next, their teaching programmes are formalised according to Western universities' standards. Lastly, they have recently started focusing on digitisation and the provision of internet access to their students.

UM2's university has recently attempted a new approach by opening a recruiting centre to attract foreign students and planned to open representative offices in neighbouring countries (Russia and Uzbekistan) to promote their university and attract foreign students.

They also highlight the important role of social media in effective and efficient communication with prospective students.

> *They organise online meetings with applicants. I think they are doing well because there are many young staff and build connections with applicants using all social media tools to answer their questions quickly. Last time they said they needed to include WeChat as Chinese applicants do not have access to WhatsApp. We did not have this type of recruiting centre before. (UM2).*

This interview also shows the university's strategy to be visible in all social media without relying on their website alone. This interesting strategy can be discussed in more detail. Furthermore, in addition to recruiting students, they are also able to now provide students with access to foreign publications through platforms like Scopus and Web of Science which was not previously possible.

Overall, one can see that not only universities are interested in the internationalisation of higher education, but also the Ministry of Education as they support financially some expenses for universities. As a result, some universities are capable of hiring foreign professionals to change the institutional structure and teaching programmes of some universities and increase the English competence of faculty.

5.2.2.2 Collaboration between Universities

When asked about collaboration with foreign universities, some participants were positive about their collaboration, whereas others had some issues. For instance, UM3 said that '*10-15 students studied according to Finnish curricula*' based on an agreement with a Finnish university. According to G1, some students had a chance to obtain their double diploma after '*spending part of their studies in X in the UK'.* Furthermore, G2 said that they *'signed an agreement with a Russian university that allows our PhD students to study there for one term and the same for their students'*.

However, not for all universities collaboration with foreign universities seems to be productive. UM2 said:

> *Although some partner universities provide 50-70% discount for our students, students in our region still cannot afford it. Due to that reason, our students go to Russia, Turkey, Poland, and the Czech Republic (UM2).*

Despite the significant discount from certain foreign universities, certain foreign countries are prioritised due to cost impacting students' study destination choices, which affects international collaboration strategies of Kazakh universities which can be interesting to discuss further in detail.

Furthermore, some university managers seem to be willing to accelerate the collaboration process. For instance, the excerpt below revealed that one university completed more than a dozen agreements in a limited time.

> **Interviewer:** *You said you had to sign 10-15 agreements with foreign universities within two weeks. Why did you have to?*
> **UM3:** *Yes, it was a task from the managers. I forgot what programme it was, but we had to conclude such a number of agreements within the limited time and invite them.*

However, it is unclear exactly how and in which ways this rapid conclusion of multiple agreements impacts the quality of and forms of internationalisation pursued.

5.2.2.3 Foreign Students at Kazakh HEI

Although a majority of participants mentioned positive attempts to internationalise, this section reveals some contradictory and possible unintended results. One university's location plays a key role in attracting foreign students as it is located in the capital city Nur-Sultan, however, the number of foreign students is still not achieving expectations. For instance, G7 said:

> *…as far as I know, we have around ten foreign students… these people are mostly the children of businessmen, diplomats, and other foreigners who are working in Nur-Sultan. So, I mean… we have the advantage of locating… in the capital city of Kazakhstan… (G7).*

Similarly, talking about international students from developed countries, UM3 provided similar data noting that they have 'a few *South Korean and one German student*. However, regarding developing countries, she said:

> *…we have a lot of students from China, Pakistan… many students come from developing countries because Kazakhstan is a politically safe and stable country. Regarding students from developed countries, yes, there are very few of them. Regarding China, mostly ethnic Kazakhs come to us…*

This statement is supported by another universities' manager. For instance, UM4 noted that for the current year, the main body of foreign full-time bachelor and master's students (120 students in total) at their university came from '*China, Mongolia, Uzbekistan, Tajikistan, Turkmenistan, and Russia*'. However, their number will decrease *'because some of them will receive Kazakh citizenship later'*, which means that ethnic Kazakhs come to Kazakhstan as foreign students and take Kazakh citizenship afterwards.

5.2.2.4 Collaboration with Foreign Colleagues

When asked if they collaborate with their foreign colleagues, G2 said that they were provided some help by their foreign colleagues. The participant said:

> *When I was working on opening a doctoral programme in Pedagogy and Psychology department, I asked them for help, and they did not refuse… So, we have a good connection.*

Similarly, G7 also took advantage of her foreign colleagues in terms of developing their programmes. For instance, she said:

> *...just recently I talked to one of my colleagues… and asked his advice regarding how to develop our programme… what he is doing now is exactly what we are trying to do here at this university. So, he helped me a lot. If this could be considered as a collaboration… yes, I do have some collaboration.*

Other than improving teaching programmes, some graduates try to increase research quality in their fields in Kazakhstan collaborating with their foreign colleagues. G8 states:

> *Yes, I do, I try to keep in touch with them. I want to develop science in my field, policy… political economy, and heterodox economics are not developed in Kazakhstan*.

However, G4 is more ambitious about collaboration. She said that they are *'currently working with the UK, Canada, and the US'* and planning to broaden their collaboration further. She stated that '…*Since we have PhD members from Japan, Hong Kong, Australia, we have been planning to work with these countries in the future'*.

All these are positive attitudes towards collaboration between the graduates and their foreign colleagues. However, when asked if they collaborate with their foreign colleagues, one interviewee of a university located in one of the major cities argued that there is not any collaboration activity in their university. For instance, G6 said:

> *I have no research collaboration with foreign scholars, and I have never heard or seen anyone here writing books or articles with foreign scholars in any field. Even if they do, it may be just for the record. We do not have this kind of culture.*

However, although some participants provided opposite viewpoints to G6 and said they had intentions to work with foreign scholars, they provided reasons for their inactions. G1 was keen to develop collaborations but was unsure of their personal capabilities.

> *I think it would be great if there is an opportunity to carry out common research… but now, I am not ready for that to be honest because I do not have a specific idea yet (G1).*

Similar points were also made by G3 who stated that they "have the intention to collaborate but have no significant connection and common research work with foreign scholars". A more detailed response was provided by UM3 regarding their inaction.

> *Yes, since American government provide grants specifically for Fulbright graduates, we discuss the possibility to apply for projects between Fulbright associates… but to be honest, lately I do not have enough time due to my current job in gender economics (UM3).*

So, the reasons that hold some graduates from research collaboration with foreign scholars were identified as limited time, lack of research ideas, and significant connections. These issues can be interesting to raise in discussion because it is necessary to make more use of Bolashak alumni networks.

5.2.2.5 Opinion on Kazakh Language Condition

When asked about the negative influence of English on Kazakh, the participants were unanimous in the view that English as the language of instruction does not affect their native language negatively. This question also revealed the true conditions of English as the language of instruction amongst students and staff. For instance, although IE9 acknowledges there is fear in society regarding the native language, he feels positive that English will not affect negatively on it. He said:

> *Your question is pertinent because the Kazakh language is underdeveloped, so we are afraid. If Kazakh were strong, we would not be afraid. But the whole world is moving in the*

> *direction of learning English. Their languages are not under pressure. Many European universities… strong universities of Italy and Spain can publish like people here. That is why all Kazakh universities should use English.*

However, G5 was quite direct in his answer to the question and argued for the role of English in science development. He stated:

> *No, I don't agree with that statement. For example, China has been publishing only in English during the last ten years. We need to learn and teach English unless we want to stay behind the science development.*

In the same vein, UM2 did not agree with the statement.

> *I don't think it will limit the areas of Kazakh language use. If at least 30-40 per cent of people spoke and understood English, we would already move forward in science.*

What she further reveals is that apparently, the percentage of university staff and students who speak and understand English does not reach even 30-40%. Similarly, G6 brought to light the challenging condition of English in universities in the time of internationalisation. He sharply said that *'Teaching only in English is just a show-off'*. Further, he said:

> *They say that 90 per cent of university enrolment is taught in English, but neither students nor staff speaks English in reality. They opened English groups last year, a kind of pilot project… I can explain my topics, but to put it mildly, other staff's English levels are unsatisfactory. How can English limit the Kazakh language use in a situation where no one speaks English? Using English as the language of instruction is just formality… it is a lie. We don't have enough staff to teach in English (G6).*

This condition was echoed by another graduate participant who worked at another university. G3 said:

> *English language competence of our university staff and students is too low.*

These statements indicate the insufficient or inadequate level of English language proficiency among faculty and students at certain Kazakh universities. Additionally, it is

important to note that the Kazakh language is currently not considered to be in a state of jeopardy.

5.2.3 Barriers to the Internationalisation of Kazakh HEI

5.2.3.1 Conditions of Universities

According to the participants' responses, there are considerable issues that are a hindrance to the internationalisation of higher education in Kazakhstan. One of them is the low salary in higher education G1 said:

> *Bolashak graduates do not want to work full-time at universities. They ask for part-time teaching positions on Saturdays, but it is inconvenient for universities… Universities cannot provide competent salaries.*

Others also mentioned financial barriers:

> *I would be happy to see more foreign degree holders in academia in Kazakhstan, but they are not because it is not a very interesting career opportunity for them in particular in our field like business, economics, finance, counting and so on as employers are not competent compared to private or quasi-sectors (G7).*

While G4 suggested that even the potential to shorten the duration of the Bolashak contract was not enough to attract them.

> *Our PhDs don't want to go there even if these are regional universities where you can work for two years, and like get rid of these Bolashak contracts, and requirements. But salary can play a role. Regional universities don't afford them (G4).*

Financial issue in regional universities is further exacerbating. For instance, UM2 noted that the *full-time salary was 150 thousand tenge* (around £270) per month.

However, financial issues are not the only problem. G2 mentioned a lack of access to the Internet. Their "department faculty gather and pay for the internet and search for what they need" because "it is impossible to use the university internet as its speed is too low". G2 emphasised the importance of "competent equipment, devices, and laboratories" in addition to "developing programmes to provide quality education at the international level".

> *Although we develop programmes, we cannot reach the international level because unless we have competent equipment, devices, and laboratories… we cannot provide quality education (G 2).*

G4's complaint below revealed more information about the quality of laboratories.

> *So again, we talk about chemistry… in the UK you can have your reagents in two to three days, but in Kazakhstan, you have to wait for six months at least. So how can you do chemistry if you have to wait for six months? (G4).*

The participant highlighted a pronounced disparity between the availability of reagents in the UK and Kazakhstan. A few potential reasons for G4's complaint could be limited local production of specific reagents or chemicals required for experiments. Additionally, import regulations and supply chain and logistics challenges may contribute to the limited availability of reagents in laboratories.

Furthermore, what held G5 back from working in regional universities were limited book resources, the low competence of other staff, and fear of lagging behind in their ongoing personal development due to these reasons.

> *…in regional universities, there are limited sources of books and low competence of staff and students. I don't want to lose all the knowledge I gained abroad in just 2-3 years and lag behind (G5).*

Additionally, G5 noted that bureaucratic hurdles to applying for and obtaining a grant had changed his colleagues' decisions to apply for research grants in the future.

5.2.3.2 The Role of English

There were some negative comments by graduates and university managers about the English competence of university faculty in Kazakhstan in the previous sub-section. This sub-section considers the participants' attitudes towards English. Some interviewees considered English as *access to fundamental scientific works*, while others acknowledged that *up-to-date knowledge can be accessed through English*.

Furthermore, G4 mentioned that university faculty have no choice but to learn English by saying:

> *If we go to Germany, PhD is in English, if you go to Japan, it is again in English so the whole world is using English as a primary language for science. So, you have no choice.*

These results suggest that the predominant use of English as the primary language for scientific research and doctoral programmes in many countries including Germany and Japan reflects the global trend in academia. This suggests that individuals aspiring to pursue scientific careers are driven to develop English proficiency due to its widespread adoption in the field of science.

5.2.3.3 Competence in their Field

Furthermore, concerns were expressed about faculties' competence in their fields. A majority of participants were critical of it. For instance, IE3, who had already left Kazakhstan, said that during her management work at a Kazakh university, she was not satisfied with faculty competence. She commented:

> *To be honest, I wanted to burn my department because many excellent students come to us to study public health, but after some time they become F students because none of the teachers speak English… know nothing about the methodology of their subjects… How can they teach if they don't know them? It is a murder to send students to those teachers…*

This issue was echoed in the comment of G5. He also familiarised himself with his former teachers' works and found them unsatisfactory due to a lack of methodology and current theories.

> *In Kazakhstan… things about the theories of international relations stopped in the 1990s. Theories related to Cold War between the USSR and America are taught in Kazakhstan. A million theories came to life after thirty years. International relations issues have taken new directions and appeared new things. Our teachers don't know them… These days I read the works of teachers who taught us in Kazakhstan and find it practically impossible to read because they don't have methodology things.*

G8, who had four years of teaching experience in British universities, confirmed the issues in his field of study as well as in other fields regarding theories and methodologies.

> *Not only physics but also chemistry suffers, and in general, social sciences, sociology, political economy, and international development at all (shakes his head) … I can already judge that the main issues we have are scientific and methodological directions are very poor and underdeveloped… here heterodox economics does not exist, no history of economic thinking... They don't teach developed economics, political economy… critical analysis… they teach such things as 2x2 is 4… 70-80 years old theories that are very much irrelevant to social reality, especially to countries like Kazakhstan.*

This situation demonstrates the persistent low quality of education in certain Kazakh universities, despite Kazakhstan's commencement of the internationalisation process in 1993 through the establishment of the Bolashak programme, followed by its accession to the Bologna Process in 2011.

IE3 argued that the issue is not in finance that impedes the internationalisation process, but lack of potential in faculty as she said only five amongst 42 faculty could publish papers in Scopus three of whom were doctoral students. She also argued:

> *I brought two grants to the university (university name omitted), but no single professor took them because they couldn't do it, because they don't have potential. The issue is not in finance... the government want to finance, but whom? Those who have no knowledge? What can they do? Nothing…!*

Furthermore, based on the extract from the interview with G4, one can see that there is a limited number of faculty with post-doctoral research competence in some universities.

> **Researcher:** You said you opened several programmes in your department. Who teaches those programmes these days?
>
> **G4:** Main body of faculty are master's degree holders, and then PhDs.

These illustrative points can be interesting to raise in discussion regarding the barriers to internationalisation process in Kazakhstan.

5.2.3.4 Faculty Mindset

Previous sub-sections mentioned financial issues and the issues of language and professional competence. Another reported problem was the faculty mindset. Some felt that university faculty do not have lifelong learning principles, whilst others believed that the problematic mindset was inherited from the Soviet period. For instance, G6 also mentioned that main issue is not financial but mindset.

> *The issue is not in salary alone, but it is also in our mindset… for example, if there are 15-20 faculty staff abroad, and they teach according to their specific field… but here you are a universal soldier… you teach in many different subjects in one field… they don't care if you can or cannot. You must teach… all these don't let you have free time… and teachers lose their interest… you become a semi-robot. Then teaching staff focus on showing that everything is perfect in the report, but it is completely different in reality. It is the culture of the Soviet period we inherited. We need to change our mindset. That is our problem… (G6).*

Similarly, IE3 shared her previous experience as a vice-chancellor regarding the mindset of university faculty. She stated:

> *…teachers don't have life-long principles at all… the methodology of public health is biostatistics and biotechnology… they say 'Oh, we didn't have such subjects in our time.'*

Limited time of faculty due to the quantity-based approach of managers and lack of life-long learning principles amongst faculty seem to degrade science in Kazakhstan as according to IE8, *there are faculty who want to pay for scientific papers to be written for them* rather than writing by themselves.

5.2.4 Graduates' Motivation and Challenges

5.2.4.1 Motivation to Study Abroad

There were some ambitious participants who were motivated by the urge to change the education and science system in Kazakhstan. Amongst them was G4 who said that after

returning to Kazakhstan with her foreign master's degree, she did not have enough opportunities. She had to either work as a lab assistant or do PhD abroad. She said:

> *So, I thought it would be great to have a PhD and then do something, and say something as an expert, and no one will have questions about your expertise because you have a PhD…*

In addition and more broadly she hoped that her personal development would lead to other developments in Kazakhstan.

> *I saw all these problems in the education and science system in Kazakhstan, and you cannot change again when you don't have proper education, and I thought a PhD would help me to move the initiative that I have in my mind.*

However, not all of them were motivated to make a change in the science system, but there were those who wished for further development that was not available to them in Kazakhstan. For example, G7 'would consider pursuing a PhD in economics if there were high-quality ones'.

> *But they don't have PhD programmes in economics… those universities that do have, the quality of education and research is extremely… poor.*

But he was also concerned about how this would negatively impact his own professional development.

> *I have knowledge and skills, and I need them to professionally grow… at that point, I found out that with my current knowledge and skills, it was not possible for me to develop further. I mean I could get some leading position in academia… but… I wanted more skills and knowledge…* ***(G7).***

Interestingly, the fact that some of them were growing older motivated them to study abroad. G8 noted that he was always interested in science and stated that 'it would be too late if he doesn't do his PhD abroad until he is forty'.

The emergence of online learning, computer games, and phone applications in the territory of Kazakhstan motivated G2. He became interested in "how to make mobile apps, how to make use of them in teaching".

> *at that time all these issues started emerging… all these motivated me* ***(G2).***

For a larger number of participants not only further development but also "fitting anywhere in the world through international degree" was the reason to study PhD abroad. For instance, G3 said:

> *I applied for PhD abroad to develop myself so… generally in the future… to have an international degree so I can earn a living in either Kazakhstan or any corner of the world… I mean to fit in anywhere in the world.*

G3's interview clearly shows their desire to develop their employability globally without being limited to Kazakhstan.

5.2.4.2 Choice of university

When asked what attracted them to choose their foreign university of study, the majority remarked on the quality of education their universities provided. Furthermore, G5 specifically mentioned his supervisors. Although he was offered places by several universities, his choice of university was influenced by his supervisors as their research focused on Central Asia. G5 said:

> *My supervisors were the reason for me to choose the university. I've got three offers. I chose the university (**name omitted**) because there has been a centre that conducts research on central Asia. So, there was a famous scholar that focused on Kazakhstan. I directly contacted him/her and for that reason even though it was far, I went to Scotland. Otherwise, I could go to universities around London.*

For other participants, apart from education quality, the country of the study itself and university facilities were the motivator to study abroad. For instance, IE8 reflects on their initial experience of academic mobility, highlighting their young age and lack of prior experience in studying abroad, by saying *we were young, 19 years old, and didn't have the experience to go abroad.* Regarding their choice of university, they further said:

> *At that time, of course, Turkey attracted my interest. … well, you know how it is in Kazakhstan universities … foreign universities have their own campuses, and dormitories, all good conditions have been provided for students. I think all these attracted me to study in Turkey…*

The participant expressed their attraction towards a Turkish university, noting the contrast between the conditions in Kazakh universities and the favourable amenities provided by foreign universities, such as dedicated campuses and dormitories, which played a significant role in their choice of a Turkish university.

5.2.4.3 Challenges during Study

During the study period, the participants had various difficulties regarding their foreign study due to loneliness, knowledge and language gaps, length of study, and their supervisors. For instance, G3 remembered how difficult it was for her to write her dissertation within a limited time period while being alone and without proper educational background.

> *It was very difficult for me morally and psychologically because I was alone with my child due to my marital status… also, writing such a big scientific work in English within three and a half years and defending it were all hard for me because I didn't know how to write a dissertation in a scientific environment. I had to start from scratch… I mean literature review, what approach I should take, and things like that…*

Similarly, studying for a PhD was challenging for G5 due to language barriers and knowledge gaps. He even considered quitting his education abroad and returning to Kazakhstan because he lost his confidence to pursue his foreign PhD.

> *The first semester was really difficult for me because it was really intensive. After 2-3 months, I thought I would stop my study and go home because I thought I wouldn't be able to continue my study further. I didn't understand many things. First, language barrier… although I knew spoken English, I never did a literature review in English in Kazakhstan. I was unfamiliar with many new terms, fundamental scientific concepts… I didn't know… ontology, epistemology, methodology… I had no idea how to do it… but after some time, I started getting used to how to read, what to read… then it became normal… but I cannot say it was easy.*

However, IE3 had different problems. She implied that her supervisors behaved irresponsibly and not supportive in terms of choosing her research topic which affected her time.

> *In my first year, I thought I would continue my master's topic, and my supervisor said OK. Since my supervisor said OK, I thought my work was right.… In Sweden, everybody praises you or says nothing. I don't need their praises… I lost one year to have my topic approved* ***[said angrily]****. The system here was different. Then I changed my topic because they said it was not scientific work, it is the managers' job. Then I came to my supervisor and said this issue. He/she said, 'I don't know… if they decide so it is probably so.*

Another challenge for graduates was caused by changing their research area. Although G4 had no significant difficulties in terms of "language, culture, or atmosphere" because she did her "bachelor in English, then masters in the UK", and she was "familiar with the educational system", she needed to delve into a new topic, which was a challenge for her.

> *In terms of challenges, I actually changed my topic and area of focus… I am an organic chemist. So, because I got a scholarship, and it was a little bit different area, so it was more polymer, polymer mechanic chemistry. So, I actually changed the whole direction, and it was kind of a challenge because it was a new topic. And I had to deepen and read more, and it was not comfortable maybe at the beginning. Yeah, it was a bit difficult.*

As one can see, the interview participants went through a challenging path in their study progress due to a lack of awareness of other education systems and expectations. This can also be discussed whether Bolashak or host universities need some preparation work before students visit host universities.

However, not all the graduate participants had difficulties while studying. G7, for example, described why she did not have a challenging time during her study as follows:

> *I don't really think that I had that many difficulties because I think I was pretty much well-prepared and mature already to start this path…*

Overall, excerpts show that some participants were motivated by the urge to access better scientific facilities that were not available in Kazakhstan, whereas others wanted to further

develop their knowledge and skills. However, there also were participants that wanted to fit professionally in any corner of the world through international degrees. Through their academic mobility journey, a number of them experienced challenges such as psychological, educational, and health and well-being problems. Moreover, language barriers were common amongst them. Having overcome all these challenges, they returned with knowledge and skills that not only benefited themselves but also higher education and the country in general. This is revealed in the following section.

5.2.5 Influence of foreign study on Graduates, Universities, and Country

5.2.5.1 Influence on Graduates

The influence of long-term external academic mobility on the graduates recurred throughout the dataset. In all cases, the interviewees reported that their foreign study benefited them in terms of improving self-confidence, becoming specialists in their fields, and building scholarly networks worldwide. Specifically, talking about self-confidence G2 said:

> *I became confident that I can achieve any goal, fulfil all the requirements set for me, and it increased my self-confidence.*

Furthermore, some graduates spoke with pride that they had invaluable teaching experience in their universities during their studies. For instance, G8 stated:

> *I was lucky that in the university (**university name was omitted**), I was allowed to teach as a teaching assistant for all four years. I got teaching fellowship accreditation.*

In addition to the competencies he improved, G7 also emphasised gaining teaching experience during his study.

> *I learnt a lot. I learnt how to do research, I learnt research methods and theories, learnt many things like doing presentations and also in academic themes… I also taught for almost three years. (*G7*)*

Commenting on the impact of studying PhD abroad on himself, G5 noted that it made him "a specialist in his narrow field who can do research not to mention learning cultural aspects". He also emphasised networking.

> *I built a network because it is important to get involved in the scholarly community worldwide.*

Here, one can see that although the participant did not mention cultural aspects, he alluded that he became familiar with it as well as gaining confidence in academic knowledge and doing research.

Similarly, other participants felt that their PhD study benefited them in terms of writing and publishing academic papers. For instance, UM2 mentioned she "published her paper with the help of her supervisors", whereas IE8 stated as below.

> *When I came here, I learnt what academic writing is and how to write various types of journal articles.*

Likewise, the qualitative part of the survey revealed that in most cases, studying abroad impacted them in terms of "research skills, broadening career prospects, and confidence in themselves".

5.2.5.2 Influence on Higher Education

Graduates' foreign study influences Kazakh higher education. Open-ended survey results indicated some positive changes regarding teaching quality. Some survey participants noted that they "implemented new research ideas, published textbooks, and approached teaching methodology from fundamentally different perspectives" as a result of their study abroad experiences. Others started "sharing their knowledge and experience with their colleagues in different fields".

When asked about their impact on higher education in Kazakhstan after their return, the interview participants proudly listed what they did. For instance, G1 remembered that they introduced institutional research for the first time after their return as they stated:

> *We did institutional research, and it was a new thing at that time*.

Other participants felt proud that they increased the number of new teaching programmes at their universities according to international standards. For instance, G2 said:

> *There was only one speciality in our department, but now there are more than five. I helped them open other programmes because teaching programmes are not created easily. They were written according to specific international standards and current technologies. I learnt and experienced*

> *all these while doing my PhD abroad. In recent years, Python is taught in… universities. I had them included in teaching programmes. I wrote training materials in Kazakh. I think this is one of the main impacts I've had.*

Furthermore, IE3 involved her supervisor in Sweden to organise double diploma programmes between a Kazakh and a Sweden university without being limited to "opening five master's programmes based on Sweden university programmes". She said:

> *I organised a double diploma with a Sweden university. People from Kazakhstan (**university's name omitted**) can come here to get consultancy and defend their work. It is free. That is my impact.*

In terms of improving teaching programmes quality and faculty environment in general, G7 has attempted "to assemble in their university most returned PhD graduates who started their careers in different companies in Kazakhstan". She said:

> *…since then, I see that everything has changed. The content changed very much. …we have here around 50-55 Bolashakers…*

Comparing their university's previous and current states, she further said:

> *For example, 6-7 years ago, at this university, like in many other universities of Kazakhstan, people came just to get a diploma. They were not really motivated to study, to learn something… But now we see that students are more motivated… they also spend a lot of effort studying because they want to have a better career opportunity like working in Big4, which is the dream for most of our students… everything is just the environment, the expectation, the commitment, and stuff like that.*

G8's international network seems to continue benefiting his university. He "created a centre for Political Economy that mainly focus on scientific and teaching activities". Additionally, he "organises research seminars on interesting themes every month involving professors at foreign universities for free*".* However, not all graduates' impact on higher education was sustainable as IE3 said:

> *During our work there, we published different types of journal articles, and we attracted grants… We couldn't pass our knowledge to anyone as we worked as administrative personnel… When we left, I took all the grants. Nothing left there. So, I think there was no sustainability.*

Here, the participant mentions having published various journal articles and securing grants during their administrative role but expresses concern about the lack of knowledge sharing and sustainability, as they had to take the grants when they left.

5.2.5.3 Influence on the Country

A variety of perspectives were expressed in terms of impact on the home country. A small number of survey respondents shared that they "contributed to the development of the gender economy, proposed constitutional reforms, which was later accepted, established partnerships with international radio channels such as BBC, and implemented their knowledge and experience to tackle the local problems". They also shared their contribution to the country from scientific and education perspectives such as "translating world-class literary works into Kazakh and registering international patents in oil and gas industries".

Likewise, interview data provided some positive influence of returned graduates on the country. One was about developing the country into a state that listens to the scholars. For instance, G4 described the system by stating:

> *We actually changed the whole system now... You can call vice-ministers, you can write to them, and they listen to you… Kazakhstan is young, and we can make this difference.*

G8 on the other hand has tried to establish communications between scholars and public bodies. He said:

> *I organise round tables to establish links with public bodies who worsened economic policy because well, the management staff itself doesn't know at all what we are doing here.*

Although having left the country, IE3 mentioned that she was "in contact with the Office of the Prime Minister to increase competence in the area of water resource management" while UM3 "involved her foreign colleagues in an innovation development programme at the state level".

In summary, there is a significant impact of academic mobility on graduates individually, universities, and their home countries. Participants felt proud and valuable when they were asked about their impact in their specific fields. Despite the barriers to internationalising Kazakh universities, one can see that there are some improvements. Attracting the government's attention to science can be considered one of the significant impacts on the government. The further section focuses on intellectual emigrants' stay reasons and graduates' return reasons.

5.2.6 Stay and Return Reasons

5.2.6.1 Stay Reasons

IE7's aspiration to learn English evolved into emigration due to the lack of a proper job in Kazakhstan in his field. He "thought he would return after improving his English in nine months and find a job upon return" but after nine months, he "kept extending his visa to improve his English further and earn for a living".

> **Researcher***: Why did you keep extending your visa?*
> **IE7***: Well, I didn't improve my English as I expected, and then I needed money as well… Also, in Kazakhstan, I didn't have a proper job, and I thought about why I should go back. For those reasons, I kept extending my visa.*

IE6 revealed two reasons for his stay. The first reason was that he "wanted to start his own business in the US". Second, his wife "works as a senior manager at Ernst & Young. Further, he said:

> *So, we are obviously waiting for the advancement of the business to happen in the next couple of years.*

Furthermore, the issue of career advancement is echoed in IE9's comments as well. For instance, IE9 wanted to return and work in science, but the condition of science in Kazakhstan does not seem to assist him according to his expectations. He complained that "there is no science, no opportunities for science development. There is no priority for science in Kazakhstan neither at government nor university level*"*. He further stated:

> *Top universities in Kazakhstan have financial goals. They make money teaching bachelor's students. They don't have an interest in science because, in Kazakhstan's context, science doesn't bring money for them. I thought I would return and even applied for a job but didn't get any response*.

However, equally important is a better future for their children. After experiencing a mobility programme in the US, IE1 and his wife decided to stay. One can see that this decision was made from their children's perspectives.

> ***IE1:*** *First, I think because America is the country of opportunities. Why this state* ***(state's name omitted)*** *is because… if we look from my children's perspective, here, it is better for their future… more opportunities… we made this decision based on what is better for our children.*

The participant's decision to choose the United States as their destination for better opportunities and a brighter future for their children reflects the perception of America as a country of opportunities.

5.2.6.2 Return Reasons

Turning to the participants' return reasons, four main reasons emerged from the analysis. They were family responsibilities, feelings of belonging to their home country, to benefit their country and to fulfil the contract with Bolashak. For instance, G1 stated:

> *All my family are here. It is my homeland. Nowhere do you feel at home like where you were born.*

Similarly, although UM3 wants all her family to have experience in living abroad, 'at that time, she really wanted to go home, to the homeland, to her family'.

Furthermore, G3 showed steadfastness to return by saying:

> *I would come anyway even if I didn't have the Bolashak contract because I have family responsibilities. I cannot leave my father alone. Second, I wanted my daughter to be brought up in a Kazakh environment.*

The second reason for her return was her daughter's environment. This is a contrary argument to IE1, who linked his emigration to the US with a better future for his children. These controversial results can be raised in the discussion too.

Moreover, there were participants who returned to benefit Kazakhstan. G2 showed her enthusiasm to "apply her knowledge in the purpose of Kazakhstan's development", whereas G7 felt "moral obligation to contribute to his country" and showed his "willingness to do something for younger generation". He showed his readiness saying:

> *So, I am very happy… personally I have this opportunity now and that is why I am here.*

G8 returned because he "always links his professional career and life with Kazakhstan". However, not all participants showed eagerness to return. For instance, G9 was straightforward and stated as:

> *The only reason for my plan to return was the Bolashak contract because it is not easy to get rid of it.*

In summary, the reasons for participants to return and stay abroad vary from person to person. One wanted their children to grow up in a Kazakh environment, whereas others preferred the Western environment where, according to the participants, there were more opportunities for their growth. One complained about the lack of an advanced scientific environment, whereas others had a commitment to benefit their country in some way. The next section was concerned with the experience of the graduates after returning to Kazakhstan.

5.2.7 Experience after Return and Future Plans

5.2.7.1 Challenges in Career Progression

Negative experiences mentioned by the survey participants were mostly *mismatch between foreign degrees and local job market*, *inappropriate behaviour of superiors and hostile work environment*, *resistance of local organisations to new ideas*, *lack of equipment*, and *high expectation from graduates with low income*. For instance, one survey participant noted as:

> *I can't use all my knowledge in the civil service because they don't need it. It is not clear why then they sent us abroad (**Survey Participant**).*

One noted that "some cultural habits cannot be broken that easily", whereas another complained saying "*esteemed older generation look down on foreign PhD holders".*

Interestingly, one survey participant mentioned the law system of Kazakhstan as an obstacle to prospective projects. They said:

> *The law system is negatively flexible to rely on as any question can be resolved only based on the personal interest of a court. Impossible to make your projects happen due to the high interest of governors in*

> *money making. Any ideas in the process of realisation can pay off badly on yourself.*

Challenges of finding a job according to their degrees were mentioned by interview participants too. For instance, G3 said:

> *After returning to Kazakhstan, it is very difficult to find a job where you can use your knowledge obtained abroad. At the same time, Bolashak responsibility pushes you… What job you can find is another issue.*

Although some graduates become employed, the lack of systematic approach of university policies towards employees impose some concerns on the graduates' teaching and research progress. This issue can be seen from excerpts below.

> *Many people think that to be among fifty developed countries, we need PhDs. PhDs don't work unless there is systematic approach… in administrative position, there is no time left for even pondering upon something interesting* **(G1).**

Similarly, those in teaching positions struggle to do research. For instance, G7 stated as 'I am very much concerned with the fact that I don't almost have time to do research. This is very disturbing for me personally.' G4 emphasised the bureaucracy as one of the reasons behind the limited time for researchers.

> *At the moment, when you have the brightest idea, you cannot implement it here because our policy's bureaucracy doesn't allow you to do that… Unfortunately, this is the reality now.*

However, G3's challenging experience differs from the previous participants and relates to her clothing style. She was always suspended by her managers 'in the events where the president or city mayors visit even though she put her effort into those projects'. The reason for that was her hijab. She said:

> *they say oh their security personnel would ask us investigative questions about you. In short, I was told not to show up.*

In another job, she always had to defend her right to wear according to her religion. As she stated:

> *the vice-chancellor and HR manager kept calling me and saying wear whatever you want out of the university, but you must take your scarf off whenever you are at this university.*

Furthermore, regardless of their educational degrees, some graduates feel unvalued by university top managers and policymakers as experts. G8 said:

> *We need science-based decisions… In economic management, there should be the opinions of experts. But here, it is not clear what experts' opinion means… staff in the ministry office? They should ask us, scholars.*

According to UM3, 'many Kazakh universities have a settled tradition that interferes with the development of higher education.' As she stated:

> *it is important who is behind you rather than your knowledge quality.*

Since she did not have anyone supportive, she worked as a lower rank administrator despite her PhD from Fulbright and experience in international organisations, whereas the head of the international affairs department was someone with a bachelor's degree. She said:

> *This is the main issue in many universities.*

She further supported some survey participants by saying that 'there are no opportunities for young specialists, they do not feel they are necessary.'

The 'settled tradition' issue was mentioned by IE3 but using another term, environment. She explained her version for the lack of professional growth amongst returned graduates as:

> *Why do people not grow in their careers? Many PhDs came back 4-5 years ago, but they are still post-docs since then. But my colleagues support me to grow professionally here using their networks. Now you can understand what the environment is. I experienced it.*

Having said that she continued how challenging it was for her while she worked in a Kazakhstan university.

> *When I was a vice-chancellor, many people hindered me. Sometimes I felt afraid to go out of the university. Morally it was really difficult for me.*

IE9 put his versions regarding obstacles for the professional growth of graduates, which is similar to G1. He said:

> *Because of various systematic problems, very high levels of bribery, and inequality in Kazakhstan, it is impossible for many people to grow…*

These results indicate interesting points in the Kazakh higher education context and beyond, which hamper and frustrate returners. Additionally, gender perspectives and barriers for females attract attention to delve deeper into the issue.

5.2.7.2 Positive Experience in Career Path

Some interviewees in the previous sub-section argued that their career challenges were due to being unappreciated, the university environment, and the lack of a systematic approach to science development. However, this sub-section shows that not all of the graduates experienced such difficulties. Although a few in number, survey participants shared their positive experience by saying that they "felt needed and accepted like in a family by their work environment", whereas an interview participant (G3) noted their study abroad experience played an important role in their resumes when applying for a job.

Although there are some misunderstandings between returned graduates and local employees in their workplaces, G2 could not consider them as obstacles. He said:

> *Sometimes there are some misunderstandings to some extent, but I think it is temporary. I cannot consider it obstacle*.

Studying abroad benefited some participants in terms of promotion and salary, and it provided access to positively demanding projects as mentioned by G7 below.

> *…regarding my career progression…I think I was lucky to enter relatively good place and also to get a very good position in many stances. It is well paid, it is interesting, it gives you a lot of interesting opportunities and projects that you can develop, and it gives you challenging… in a good sense***.**

Others felt that studying abroad was advantageous as concerns with equality between administrative and teaching staff at universities. For instance, G1 said:

> *Of course, it benefited me in my position… I am not a manager; I am deputy head of department… I mean administrative auxiliary position. Still, it gave me to be at the same level with other scholars in teaching positions* (G1)

Overall, these results indicate that although studying abroad benefited some graduates in terms of their careers after return, some others experienced significant challenges. The reasons for the challenges are, first, the mismatch between the graduates' degrees and jobs. Next, it is the environment that includes a systematic approach to brain gain through the returned graduates. Furthermore, it includes the attitude of local staff towards the graduates. Finally, bribery and inequality put constraints on professional growth among graduates.

5.2.7.3 Graduates' Future Plans

When asked about their future plans, in some cases, the graduates (G5 and G8) explicitly reported that they plan to go abroad for research and professional development purpose for a limited time period. For another, (G3) it was dependent upon opportunities for employment or to start their own business. Furthermore, when asked specifically if they wanted to emigrate, the majority answered positively as G7 below.

> ***Researcher:*** *Do you want to emigrate to other developed countries?*
>
> **G7***: Yes, I consider to be honest.*

Also, one can see that G6's patriotic feelings during he was abroad changed immediately after returning home. The extract below shows his eagerness to emigrate due to being unvalued.

> *As I told you before, when I saw all this reality, the first thought that came to my mind was to leave the country. I wanted to run away. I didn't want to lock myself up in a place like this… if I have an opportunity, I will leave somewhere where I feel valued… when I was abroad, I thought I would work for Kazakhstan… things like patriotism… but when I saw the situation here… you really want to leave. Not easy. If you have a job there, stay in Scotland* ***[laughs]****.*

However, amongst the participants were those who had never considered emigration and put his contradictory argument to G6. G2 stated his argument as:

> *If you have a scientific discovery, anywhere in the world your work is valued… so I never thought of going anywhere.*

This section focused on the graduates' future plans and emigration aspirations. The next section considers what affected intellectual emigrants' decisions to emigrate.

5.2.7.4 Reasons for Intellectual Emigrants to Emigrate

Regarding their emigration decisions, intellectual emigrants provided various reasons. Some were motivated by high salaries and growth opportunities, whereas others did not feel valued in Kazakhstan. Some others went abroad to study and stayed there. The excerpt below explicitly shows that IE7 was motivated by a better life abroad.

> ***Researcher:*** *Why did you leave for America?*
> ***IE7:*** *Personally, I left to have a better life… it is true. For example, people from Uzbekistan come to Kazakhstan because Kazakhstan is more developed. Conditions are better. People leave Kazakhstan for Russia or other countries to live better lives.*

However, in addition to eagerness to "experience foreign life", IE4 mentioned "opportunities for growth abroad" and "high salary" as their reasons to emigrate.

> *First, I wanted to experience foreign life… I left because there are opportunities for growth here. …Salary provided here is very high. It is good. That is why we left.*

Further IE4 supported G6's argument that they feel unvalued in Kazakhstan after returning (see previous section) by saying:

> *For example, an English scholar and a graduate who returned after foreign study and still holds a Kazakhstan passport should be considered equal. They pay high salaries for foreign professors but tenfold less for returned graduates. It is truly wrong* (IE4).

IE4's growth opportunity reason echoed in IE3's interview too. As the latter noted, her foreign colleagues were helpful in terms of her career growth and implicitly mentioned below that people emigrate for the purpose of working with more competent people.

> *Professors here help me promote my career. I think the competency of colleagues is the major problem why people leave* (IE3).

Furthermore, among the participants were those (IE8) who emigrated "to study abroad", and their study continued to residency ownership. Whereas, others' emigration happened due to family reasons, marriage.

> *I emigrated because I got married. The main reason for my emigration wasn't a job but family reasons* (IE5).

Ecological issues prove to be a reason for certain individuals to emigrate from Kazakhstan. For example, IE1 left because of the "pollution". He further said:

> *…if we go to Kok-Tobe* **(an attractive place in Almaty city)** *and look down the city, too much smog. Even just in the streets, you can feel the fuel. But it is not only from vehicles … many coal-fired power plants are in the city.*

The participant's observation of excessive smog and pollution in Almaty highlights the presence of various sources contributing to the pollution, including vehicle emissions and coal-fired power plants within the city.

5.2.8 Brain Circulation and Its Barriers

5.2.8.1 Shortcomings of Bolashak Rules

As mentioned before, Bolashak sends students abroad to study. Its purpose is to increase the country's human capital. Through its implementation, many people have obtained their degrees from top foreign universities and implemented their knowledge and skills in Kazakhstan's economy. However, some graduates and intellectual emigrants are critical of its seemingly successful implementation, but this time they consider it from the brain circulation perspective. For instance, IE3 criticised Bolashak's rules saying, "strict rules are incorrect philosophy, especially in terms of scholars" because "they cannot be locked in one cell (**she meant Kazakhstan**)". She further said:

> *For example, they say Bolashakers should work for five years in Kazakhstan, and if you spend more than 40 days abroad, they don't accept it as your work obligation period. But to bring foreign scholars to Kazakhstan, you should go to them first….*

Similarly, IE9 underlined below two issues regarding Bolashak's strict returning rules. First, the country's condition is not capable to provide the returned graduates with opportunities to prosper to the full extent. Consequently, it is difficult for them to circulate knowledge between Kazakhstan and developed countries. Second, he argues that returning rules should be reconsidered as it is inapplicable to the modern world.

> *I know many Bolashakers who can get a job here or apply for a PhD. But since they had the scholarship, they had to return. After*

> *returning most of them don't achieve their true potential. That is why I think returning those specialised in finance, economy, and investment is a bit outdated policy because the returning policy was accepted in the 90s but now the world is different. I think Bolashak should be a bit flexible* (IE9).

Furthermore, G5 is more concerned with the programme's ineffectual approach towards developing Kazakhstan's regions. He did not choose to work in regions due to limited source of information and knowledge. He stated it as:

> *They **(Bolashak)** have a policy to develop regions by sending graduates there for a shorter work time period. But this policy doesn't work at all. My priority is not to finish work obligations sooner, but I would prefer to work where I can grow professionally. I don't want to lose all my knowledge by working there where there are limited resources, and the quality of knowledge is too low* (G5).

Another concern expressed regarding Bolashak's policy on brain gain was its TOP 100 universities policy. IE3 mentioned the mismatch between Kazakhstan's problems and the scientific focus of top universities and stated that "people in Kazakh villages are sick due to lack of access to drinking water, but TOP 100 universities don't consider it as science because they mostly focus on new inventions". She further said:

> *But the problems we have in Kazakhstan are not highly scientific, we don't know how to use the current science development in our settings.*

However, she did not intend to shift the focus from TOP 100 universities but to keep a balance between programmes.

> *But I am not saying everyone should go and study state-run programs to support science development. I think there should be some distribution.*

Further, she exemplified the ineffectiveness of the TOP 100 university policy and criticised some graduates.

> *one Bolashaker studied nanotechnology for six years. S/he is a teacher of physics. Then why did s/he study nanotechnology? Is there a laboratory for nanotechnologies in Kazakhstan? When*

> *they return, they can only teach. No one will benefit from their six years of study. Graduates say to build laboratories. Do we need to build expensive laboratories because one graduate said so?*

Finally, she suggested that "for Bolashak to be effective, it should offer what topics to study based on the government's necessity".

Excerpts indicate that although the Bolashak programme seems to work productively, it still needs some reconsideration regarding its policies, approaches, and rules because it needs to evolve with the modern time as mentioned by the interviewees. The next sub-section of qualitative results was concerned with university managers' attempts to collaborate with intellectual emigrants.

5.2.8.2 Inaction of University Managers

Issues related to involving intellectual emigrants in the process of collaboration with local universities were not particularly prominent in the interviews with university managers. In all cases, the informants reported that they did not consider this option to circulate knowledge with developed countries. When the researcher asked if they collaborate with intellectual emigrants, UM2 stated that "they had never tried or engaged them in collaboration".

When asked the same question, UM4 answered negatively and with uncertainty, and the participant showed that it was a new idea for them:

> *to be honest… will they come to Kazakhstan? They became accustomed to European or American life conditions… I've never thought about that. If there are such people, of course, we are ready to consider…* (UM4)

Similarly, UM3 said without hesitation that she had never thought about this opportunity.

> *So far… no to be honest. I have never considered such things.*

Negative responses were echoed by the majority of intellectual emigrants as well. For instance, IE6 stated that "he had never received any invitations from any Kazakh universities to be a guest lecture" and gave his reason for that by saying:

> *I guess it is just because they might not know me.*

The findings of this research highlight a noticeable absence of collaborative efforts among various stakeholders within the Kazakh higher education system, which, in turn, limits the

potential for effective improvement and advancement of the internationalisation process in Kazakh higher education.

5.2.8.3 Intention to Circulate Knowledge

There was a sense of readiness amongst most intellectual emigrants to circulate knowledge with scholars in Kazakhstan in their specific fields. Some spoke frankly that long-term visit is not an option, but they could provide support if their colleagues in Kazakhstan needed any assistance. For instance, IE1 put it as:

> *I cannot for the long-term, but if they need any help in my fields, I believe I can help them because I have experience in big companies and what risks there might be… Yes, if they invite… yes.*

Similarly, IE5 said, "he wouldn't mind collaborating with specialists in Kazakhstan if they had such an offer". Furthermore, IE2 showed her readiness "to participate in projects related to therapy, health care reforms, writing new textbooks for medical universities".

What is interesting about some intellectual emigrants was that although they were dubious about returning, they were entirely positive in terms of collaboration with their colleagues in Kazakhstan. For instance, the excerpts below show that some of them were not eager to return but plan to start research collaboration.

> **Researcher:** *Do you think you will return to Kazakhstan in the future?*
> **IE9:** *That is a difficult topic. But definitely, even if I stay here, as an academic, I can visit Kazakhstan to give lectures and… I have a plan that in the future, I will start collaborating with Kazakh scholars by applying for grants… because … here, British organisations provide grants for collaborations with foreign scholars.*

Despite their doubts about returning, some intellectual emigrants expressed positive attitudes towards collaborating with colleagues in Kazakhstan. For instance, IE9 mentioned plans to visit and give lectures in Kazakhstan, as well as to initiate research collaborations with Kazakh scholars through grant applications, taking advantage of funding opportunities provided by British organisations.

In summary, together these results provide important insights into the fact that certain returned PhD graduates have influenced teaching programmes and environment quality in

Kazakh higher education through their foreign collaborations. However, its sustainability is doubtful as Bolashak demands the participants to stay in the country for certain period of time that might negatively impact their scientific contacts and competence. Furthermore, circulating knowledge through the intellectual emigrants were ignored at all levels. First, it can be seen from the fact that certain UMs are reluctant to take advantage of the opportunity IE can provide. Second, no attempt can be seen from the government to attract IE in collaboration although the latter are open to scholastic collaboration. These and other identified issues are discussion in more detail in the following chapter.

6 Discussion

6.1 Introduction

As Kazakhstan has set out to develop internationalisation through Bolashak since its early independence, thousands of Kazakh young citizens have obtained foreign degrees. At the same time, the outflow of intellectual emigrants from Kazakhstan draws attention. A strong relationship between academic mobility and the emigration of intellectual emigrants or brain drain has been reported in the literature, but it was difficult to see whether the academic mobility of PhD graduates affects their intention to emigrate in the context of Kazakhstan.

Furthermore, research finds that it is important to slow down the brain drain through reengaging intellectual emigrants in research collaboration with local faculty that consequently benefits the internationalisation process in higher education. Overall, this chapter aims to interpret and discuss the results to answer the research questions and meet the research objectives.

6.2 Graduates' Motivation to Study Abroad and Return Reasons

6.2.1 Motivation to study abroad

One can see that the participants are passionate about self-development but unsatisfied with the quality of higher education in Kazakhstan. The government seems to acknowledge this issue too. For instance, both survey (78.7%) and most of the interviewed PhD graduate participants (7) were *self-motivated*, and the government played a significant role through Bolashak in terms of their financial resources (Section 5.1.6). This indicates the fact that the government is trying to accelerate to become amongst developed nations (see Section 1.2).

However, it also indicates that most Kazakh higher education institutions are not presently competent to provide quality knowledge despite their attempts to internationalise themselves. This claim can be supported by the findings where *Better knowledge abroad* (67.5%) was the top motivating factor for the participants (Table 5-8). For instance, G7 said that *she would have applied for Nazarbayev University* (the flagship university) *if they had a good PhD programme in economics*. She did not want to apply to other Kazakh

universities stating their quality of education and research was extremely poor and would not assist her in further professional development.

Also, new knowledge abroad and limited programmes in the home country motivated knowledge seekers to study overseas. This was supported by both the quantitative and qualitative data. For example, Table 5-8 shows that certain participants studied abroad due to the exact speciality they could obtain from foreign universities. Whereas, G2 applied for a foreign PhD in IT when mobile apps, computer games, and online teaching started emerging in Kazakhstan territory. However, there were no opportunities to study these new emerging fields in Kazakhstan and that motivated him to study abroad to allow him to develop that expertise (see Section 5.2.4.1).

These findings are consistent with the findings of Burnett and Gardener (2006) and Streitwieser (2014). In the former study, degree quality was one of the main reasons for Chinese graduates' choices to study at a British university. Using Cyprus as an example, the latter notes that degree mobility manifests itself mostly in countries that cannot provide local students with opportunities and the attraction of higher quality of institutions or programmes overseas. These confirmed situations suggest two central issues in terms of internationalisation policy in Kazakh higher education.

First, recruiting returned PhD graduates in higher education is important to increase the quality of and the assortment of programmes in universities and that may consequently decrease the outflow of students. (Issues of recruiting returned PhD graduates are discussed later). Second, they may play a vital role to increase the visibility of Kazakh universities, at least in Central Asia, as some returned graduates with PhD levels from developed Western countries are likely to provide quality knowledge that meets international standards in terms of teaching and research using English as the language of instruction. This point is recognised in G5's response, which emphasised his supervisor's reputation for his choice to study at a Scottish university. These factors may explain the relatively good correlation between quality teaching programmes and quality teaching faculty to attract foreign students.

Additionally, it is possible to hypothesise that factors such as good university and campus facilities in combination are highly likely to impact positive reviews on a university webpage that possibly affects foreign students' motivation to choose and study at a particular university. This claim can be confirmed by Table 5-6 which shows that student

reviews on a webpage affected the participants' choice of universities. These results confirm Delgado-Marquez *et al.*'s (2011) findings that showed positive correlation between staff scores and the total scores of institutions in overall results of internationalisation.

In terms of self-development, this study demonstrated that generally *better future career prospects*, *cultural experiences*, and *language improvement* motivated the participants (Table 5-8), which is in accordance with previous research (Glencross and Wills, 2006; Anderson and Lawton, 2015; Ehrenreich, 2006). Interestingly, the divergence of the current research from others is that it found that participants considered self-development from two different perspectives: brain gain and brain drain. For instance, one PhD graduate needed a PhD degree to become an expert in their field to initiate solutions for problems in the education and science systems of Kazakhstan (brain gain). Another PhD graduate applied for PhD abroad to develop themselves so they can earn for a living in any corner of the world without being limited to living in Kazakhstan. The former response indicates that some participants were motivated by the poor state of education and science system in Kazakhstan, which means some graduates focused on self-development to initiate positive change in their field after their return. This partly contradicts the findings of Bokayev *et al.* (2020), who claimed that young Bolashak graduates fail in patriotism.

However, the latter response and small portion of the survey results agree with Tremblay's (2005) argument that students can consider studying abroad as *a deliberate immigration strategy* (p.196). For instance, six survey participants chose emigration, and 27 participants chose a career abroad as the motivator for them to study abroad. It can be possibly interpreted that some participants strive to be able to fit professionally in all parts of the world without being tied to working in Kazakhstan. Here comes the role of implementing the brain circulation practice (Saxenian, 2002; Welch and Cai, 2011; Yuping and Suyan, 2015) because Bolashak monitors only those who still must abide by the contract, but it cannot influence those who finished their labour contract. It could be suggested that the government prepare a programme that attracts and integrates intellectual emigrants into the development of higher education institutions as in other contexts in case or even before the returned graduates decide to leave after fulfilling the contract with Bolashak. This approach is likely to always keep the tie with intellectual emigrants (See Section 3.4).

6.2.2 Reasons to Return after Graduation

Moving to consider the reasons for the participants to return after graduation, first, this study contradicts the point that most mobile students never return to Kazakhstan upon graduation. For instance, even though there were graduates who wanted to stay (27.6%) after graduation, most participants wanted to return (72.4%). Accordingly, it contradicts Vervekin (2017) who notes that 90% of graduates never return to Kazakhstan after their studies abroad. It may be the case that the previous study focused on high school leavers, whereas the current research involved graduate participants who may have influential reasons and family responsibilities to return to Kazakhstan.

In terms of return factors that affected the participants' return decisions, the current research revealed several issues: the importance of contracts between mobile students and governments, cultural differences between the countries of origin and study, family commitments, and moral obligation. Regarding the former, one can argue that Bolashak has a substantial impact on brain gain in Kazakhstan. It can be seen from the fact that the majority of participants (76.4%) mentioned their contract with Bolashak as their main return reason upon graduation. The responsibility of the contract is confirmed by an interviewee (G9), who noted that the Bolashak contract was the main reason for his return because it would be difficult for him to avoid financial responsibility. This contract policy is noted by Knight (2012) as a minimiser of talent outflow.

Furthermore, family commitments, cultural differences, patriotism and national pride also played an important role in the participants' return decisions. For example, G3 emphasised family responsibility over Bolashak contract and wanted her child to grow up in Kazakh culture. In terms of family commitment, this finding reflects the studies of Franzoni *et al.* (2012) that identified similar reasons for participants from sixteen nations. Another participant (G8) noted that he always links his career and life with Kazakhstan. This is in line with the argument of Baruch *et al.*, (2007:106) who note that Asian students are more inclined to return after graduation compared to their Indian and European counterparts. Since Kazakhstan is an Asian country, one may argue that this might suggest Kazakh students are as likely to return upon graduation as other Asian students. However, as findings presented earlier show non-return and outward migration are still an issue for Kazakhstan.

It is erroneous to argue that the emigration of intellectual emigrants from Kazakhstan is due to their low patriotic feelings, and this study contradicts Bokayev *et al.*'s (2020) findings that imply the necessity of focusing on patriotism and the importance of family among youth to avoid brain drain. Sixty-six per cent of participants who wanted to return and apply their knowledge in Kazakhstan can support the argument of the current investigation in addition to the facts mentioned above. Moreover, staying abroad after graduation or emigrating to developed countries does not yet mean there is no sense of patriotism amongst Bolashakers or other intellectual emigrants because there are those abroad who want to serve the country if opportunities appear (discussed later in section 6.6). Also, the government should be interested in pull-push factors that may solve brain drain issues and improve brain gain and brain circulation practices that are discussed in the following section.

6.2.3 Reasons for Intellectual Emigrants to Emigrate (Pull–Push Factors)

This study does not reject the fact that the country has experienced brain drain until now, but there are more important factors to consider than a lack of patriotism. However, since factors varied depending on individuals' needs, this research cannot specify which factors weigh more in intellectual emigrants' decisions to emigrate. Therefore, one can start with financial reasons for their emigration. For instance, IE8's experience presented how important financial factors were as she linked her emigration decision to finance, saying '*Well,* everything *comes to financial issues*.' This finding is consistent with a previous study in the African context (Bezuidenhout *et al.*, 2009) that demonstrated the financial intentions as amongst the most influential factors for people to relocate to a foreign country.

Furthermore, if one delves into the financial issue, IE4's experience enabled us to explore the imbalance between foreign and returned graduates that consequently may lead to brain drain. Earning tenfold less than their foreign colleagues seems to make the returned graduates feel unvalued and decide to emigrate. This suggests that the participants prefer to be treated as professionals equal to their foreign counterparts in terms of salary which seems fair because they are doing everything possible to improve the quality of science and education.

Despite similar findings with the previous research regarding pull factors (financial issues), the current study differs from it in terms of push factors. For instance, eighty per cent of

participants in Bezuidenhout *et al.'s* (2009) findings emphasised a high crime rate as a push factor for them. However, only one interview participant (IE3) in the current research mentioned a lack of safety in their home country. These findings may suggest that the crime rate in the context of research has a limited negative impact on the participants' decisions to stay abroad, whereas financial difficulties can be considered as the main pull factor for the IE participants.

It is suggested that university managers should pay more attention to the quality of the working environment in higher education because it affected the intellectual emigrants' decisions to either leave the country in the first place or not to return to the country of origin once qualified. Specifically, it is important to develop a supportive environment among faculty and research facilities and to balance teaching and research hours in higher education. For instance, IE3 (who emigrated after fulfilling her contract responsibility) found her foreign professor colleagues more supportive in terms of her academic career progress than her colleagues in a Kazakh university. It may be the case that having improved their academic skills abroad, the participants may find local academics incompetent in their field. Therefore, they may prefer to stay abroad for further self-development or emigrate after fulfilling their contract.

The example of IE9, who stayed abroad without fulfilling the Bolashak contract, shed light on the haphazard practice of higher education towards research and limited science and its development in Kazakhstan. Since scientific orientation is not financially beneficial for Kazakh universities, they mostly focus on teaching bachelor students to fulfil their own financial goals. Interestingly, this was a common issue among the returned PhD participants one of whom complained that university faculty are required to teach in various subjects that are not closely related to their specific fields (It is discussed in more detail in later sections). Also, 12 survey participants shared their expectation to do more research rather than more teaching (Table 5-12). Consistent with the literature (Baruch *et al.*, 2007; Sajjad, 2011; Kopecka, 2013; Vervekin, 2017), this research found that skilled colleagues and a better working environment can play an important role in the intellectual emigrants' decisions to emigrant.

This study found a contradictory finding that some participants are concerned about a better future for their children and move abroad, while others want to link the future of their children with Kazakhstan. Regarding the former, IE6's decision to emigrate presented their limited belief in their children's development in Kazakhstan, whereas G3 wanted to bring her daughter up in the Kazakh environment. This suggests that although the Kazakh

government focuses on decreasing poverty (Agrawal, 2008) and improving national education quality from primary to higher education (Toimbek, 2021), there are some people who prefer emigration due to their children's better future. It could be argued that their choices are reasonable because most parents consider what is better for their children, but with invaluable knowledge and skills obtained abroad and on Bolashak's expenses, one could be suggested to attempt to create the opportunities accessible abroad in their home countries for their children upon graduation.

In summary, this section has discussed the participants' motivation to study overseas and also reasons to return. Although quantitative data has shown a smaller number of participants who wanted to stay abroad, qualitative data confirmed this phenomenon and allowed a deeper understanding of underlying reasons and decision-making. As can be seen, emigration decisions vary depending on individuals. This combination of findings may suggest that the participants are not only financially oriented but also concerned with a better working environment, their children's future, and an imbalance in salary between foreign and returned PhD graduates that should draw university managers and the government's attention to these anomalies. Moreover, one can see that even though the government contract can minimise the brain drain (Knight, 2012), it could not prevent some participants from staying abroad after graduation or emigrating after or without fulfilling their contract obligation, which may suggest that the government should not rely only on the contract. Rather, they need to solve issues mentioned by the participants and pay attention to generating a brain circulation pool or networks between local faculty and intellectual emigrants for collaboration (see section 6.6).

6.3 Obstacles and Benefits in Terms of Career Progression after Return

6.3.1 Challenging Experience in Career Progress

So far, this chapter has focused on the participants' motivation to study abroad, and their return and/or emigration reasons. Next research question (RQ 1.1) aimed to explore returned PhD graduates' career experiences. Similar to prior studies (Wiers-Jenssen, 2003; Munk, 2009; Marini, 2009; Delicado, 2011; Tzanakou and Behle, 2017), the current research explored both obstacles and benefits returned graduates experienced in their careers (See Table 5-12 and Table 5-11), and only around 55% of returned PhD graduates could indicate their academic mobility experience was beneficial in terms of their career

progress. This sub-section discusses the obstacles, and benefits will be discussed in the following sub-section.

In order for the brain gain strategy through Bolashak to be productive in terms of internationalisation, it could be suggested that university managers need to pay more attention to the relationship code between returned PhD graduates and local colleagues because the collegial attitude issue was one of the obstacles for certain returned PhD graduates' smooth integration into their work environment. For instance, a quarter of the survey participants mentioned that they felt unwelcomed by their colleagues, and this issue was confirmed by interview participants too. IE3 found it difficult to improve the university's quality as a vice-chancellor due to strong resistance from her subordinates which led to conflicts most of the time.

Similarly, G3 felt unwelcomed due to her Islamic clothing style despite the effort she put into projects. She was required by university managers to take off her veil during her presence at work and not to participate in important events wearing her veil. Obviously, these experiences decrease the sense of belonging to a community which possibly result in unproductive approach to brain gain. It is necessary to develop or create an understanding atmosphere between local and returned faculty. Since religious attributes were unexpected findings, it suggests further investigating the work experience of returned graduates from gender and religious perspectives because male participants did not provide such issues regarding their experience after return.

These results may suggest that smooth integration of the participants in higher education can be developed from two perspectives. From managers perspectives, they be more open and receptive of new ideas and develop a relationship code between local and returned colleagues to create a supportive environment, whereas from the prospective of graduates, they need to focus on improving their transferable skills (Van der Weijden *et al.*, 2016; Tzanakou and Behle, 2017) one of which is teamworking skills in diverse cultural contexts (Sisvath, 2021) without relying solely on their foreign degree qualifications.

After engaging in their career upon arrival, the participants not only experienced vertical management system in Kazakh higher education but also underwent unfair promotion practices (Delicado, 2011). In addition, although the number is small, eight participants decided to leave academia due to a lack of promotion opportunities (Weijden *et al.*, 2016). Interview participants commonly commented that without a systematic approach, simply increasing the number of PhD holders does not have positive influence on the quality of

higher education. The case of UM3' experience in a university in Almaty (ex-capital city of Kazakhstan) displayed how unfair promotion created obstacles for the participants' career promotion. For instance, despite her education from Fulbright and long-time experience in international organisations, she ended up in a lower rank managerial position, whereas the head of international affairs was someone with a bachelor's degree with no experience in international organisations. This tradition of unfair promotion (according to UM3) is consistent with Delicado's (2011) empirical study investigating the career prospects upon arrival of returned PhD holders in Portugal. She showed returned PhD holders' limited chances to prosper in their academic careers due to unfair competition.

These findings express the need to address the issues quickly and thoroughly because it can directly affect the quality of the internationalisation process in some Kazakh universities, especially regional ones, as it is unlikely to retain faculty with advanced skills in a toxic and unsupportive environment. To overcome the issues, it is suggested that Kazakh universities adopt the Taiwanese approach (Velema, 2012; Zhang, 2003) in more effectively integrating returned PhD graduates. Not only do they provide career opportunities in universities and research centres but also improve their living standards and conditions. Based on the findings, one can conclude that in addition to the knowledge and skills obtained abroad, local employment markets (Tzanakou and Behle, 2017) can play a significant role (both positive and negative) in the participants' career progression.

Both data seem to suggest that the unfair promotion masks bribery in Kazakh higher education that impedes career progress for the participants. It also seems to have a negative impact on the quality of Kazakh higher education that consequently makes the internationalisation process challenging for the whole tertiary education industry (Altbach, 2013) by corrupting the image of universities. Furthermore, bureaucracy at the state level impedes the participants' attempts to do research in their fields. The fact that a PhD graduate quit applying for a research grant from the Ministry of Education and Science because of bureaucratic issues suggests that bureaucracy is indeed an obstacle to the participants' career progress that negatively impacts on their research skills and experience.

6.3.2 Benefits in Terms of Career Progress

This research does not exclude that along with obstacles there are also benefits of academic mobility on the participants' careers upon arrival. As part of RQ 1.1, this sub-section

explores the benefits of academic mobility on the participants' careers upon arrival. The findings are consistent with those of Netz *et al*. (2020) who found that academic mobility can be beneficial for returners' advanced career progression in various dimensions (Section 3.2.3 Influence on Graduates). They believe that high-level and high-paying employment can be obtained through foreign networks, skills, scientific findings, and publications. Despite the challenging experiences or obstacles of participants, over half of the participants (54.4%) considered their foreign degrees beneficial in terms of their career progression, and forty-two participants (34.1%) felt that studying abroad enabled them to do research independently (Table 5-11). Some others started actively engaging in policy in Kazakhstan (8.9%) and in the process of internationalisation of higher education (14.6%) and gave education interviews (8.9%) that appeared in the media. Interview data provided consistent data. For instance, participants G7, G1, and UM3 all noted that their promotions in their career and opportunities of engaging in projects with high salary were due to their foreign degrees and experiences. Therefore, it can be argued that although the percentage is small, the survey results show that some participants were able to successfully integrate into different fields in the Kazakhstan context upon return.

Academic mobility benefited the participants in terms of international collaboration, and this finding is consistent with data obtained by Jonkers and Cruz-Castro (2013) who found that the academic mobility experience of Argentinian returned doctorates impacted their scientific outcome in high-impact factor journals. For instance, 8.1% of survey participants published their papers in high-quality journals, whereas 18.7% mentioned that they are still collaborating with foreign scholars in their specific field. G4 and G7's experience of involving their foreign colleagues to open new teaching programmes at their universities in different regions of Kazakhstan also indicates that the collaboration is not limited in terms of research but also in terms of teaching quality. This is different from Netz *et al.*'s (2020) findings as they focused on research collaborations and do not mention the collaboration between returned doctorates and their foreign colleagues in broadening and improving teaching programmes. Consequently, some of the participants may have experienced positive career progress due to their ability to take advantage of their foreign networks which attracted higher education managers because they are able to develop and deliver new teaching programmes.

However, one interesting point here is that only ten (8.1%) participants could publish their scholarly works in Q1-Q4 journals, which draws attention to investigating the potential obstacles for the low number of publications. One may assume these results could partly be

explained by the limited time dedicated to research due to an overloaded teaching schedule of the participants as thirty returned graduates (24.4%) indicated that they have minimal time to write scientific papers. This assumption echoed in G6's interview who mentioned that they have no choice but to teach many different subjects because they are required to do so by their managers. G1 complained that in an administrative position, they do not have enough time to think about something interesting.

Additionally, the limited number of published articles in top journals could also be a reflection of a lack of research governance policies such as ethics that many top journals now require. These results may suggest that anticipating a massive gain from the returned graduates without providing them with a better work environment and proper research ethics management can be an unproductive strategy to brain gain. Instead, Taiwanese strategy could be an exemplary (Zhang, 2003) where opportunities provided by workplaces for the participants may act as a developmental stage in their career progress in research and quality publications that consequently may impact the universities' visibility around the world in terms of research.

6.4 Graduates' Future Plans

To understand the graduates' future emigration aspirations, the researcher was interested to see how they see or plan their future after fulfilling the Bolashak responsibility (RQ2) because Bolashak monitors only those who have contract obligations. Consistent with the literature review (Chapter 3), some survey participants (27.6%) intended to stay abroad after graduation (see Section 5.1.14) due to various pull-push factors (see Section 6.2.3), but Bolashak has to some extent fulfilled its function as a brain drain minimiser (Knight, 2012; McGill, 2018) by obliging them to return.

Accordingly, 54 of the survey participants (43.9%) plan to work in major cities in Kazakhstan, but Bolashak's new policy to distribute the graduates to regions (Bolashak, n.d.) does not seem to work successfully as only eighteen participants (14.6%) decided to work in regional universities. As noted by interviewees, this low level of motivation can be the results of limited infrastructure, resources, low quality of knowledge, and low salaries in regional universities that can limit the participants from further developing professionally. Therefore, they prefer to work where they can grow professionally and for them that is possible in major cities and abroad.

However, this study delved into the issue further. As a result, it is difficult to believe that Bolashak's contract policy has a long-term effect on brain gain strategy because the percentage of those who want to emigrate after fulfilling the contract increased by ten per cent. For instance, 38.2% revealed their plans to work abroad (Table 5-13), and it is around 10% higher than those who did not want to return and 16% higher than those whose study abroad was initially motivated by better career opportunities abroad.

Confirming that studying abroad can be an intentional plan to emigrate for some students (Trembley, 2005), two other main causes influencing participants' emigration aspirations after return have also been identified. First, Kazakhstan seems to be losing its intellectual emigrants due to being unable to provide them with further development opportunities in their fields, and the plans of 41 participants to apply for PhD and post-doctoral studies can testify to it. The cases of G5 and G8 explicitly represented their emigration aspirations purely due to further research and professional development opportunities that are unavailable in Kazakhstan, whereas G3 indicated her intention to start her business abroad.

Second, it is possible that the value system is incorrectly formed regarding the participants in Kazakhstan that can result in brain drain. For instance, G6 admitted that his intention to impact on his field and feelings of patriotism turned into emigration aspiration due to the reasons that he did not feel valued and did not want to lock himself up in the country. This issue was the exact reason for some intellectual emigrants to leave the country. One of them (IE4) complained that a foreign scholar and a graduate with a foreign degree who still holds a Kazakhstan passport should be considered equal in terms of pay rate. According to his experience, Kazakh universities and other organisations pay the locals with foreign degrees and experiences ten times less than foreign specialists, which was considered wrong by IE4. This study differs from Miranda's (2008) in terms of salary because although the issue is similar (low salary), the current research explored it from inequality perspective between local and foreign scholars or specialists.

The literature presented financial issues (Miranda, 2008), the results of academic mobility (Oosterbeek and Webbink, 2011; Trembley, 2005), or even high crime rates (Bezuidenhout *et al.*, 2009) in the country of origin as some of the main drivers for brain drain to occur. However, this study explores the issue and concludes that limited opportunities for further development and an incorrect value system or inequality in pay between foreign and local scholars could also make the returners feel limited and unvalued which consequently may lead to brain drain. Thus, more opportunities with higher salaries abroad and eased

immigration policies of some OECD countries (She and Wotherspoon, 2013) may facilitate the emigration process of the participants.

These findings suggest that although Bolashak influenced most participants' decisions to return, it does not seem competent to hold the participants from emigrating entirely after they fulfil their contract unless the issues are dealt strategically and immediately. Also, there is no guarantee that they will return after limited time work experience abroad because the more time mobile students spend abroad, the more it is likely for them to enhance the chance to stay overseas (Oosterbeek and Webbink, 2011). Therefore, the state must accelerate the implementation of brain circulation practice (Saxenian, 2002; Gaillard et al., 2015; Zweig and Wang, 2013) and offer alternative approaches to avoid the current brain drain issues and improve research collaboration with foreign organisations. Moreover, this approach could be implemented at both university and state levels because as evidenced UMs are at present not involved in these activities (discussed later in Section 6.6).

6.5 Internationalisation in Practice and its Barriers

6.5.1 Internationalisation Process in Kazakh Higher Education

Since the internationalisation process in higher education is important in the modern world, and strategies vary depending on various contexts (Delgado-Marquez *et al.*, 2011; Trahar and Hyland, 2011; Bhandari *et al.*, 2011; Mok and Cheung, 2011), an initial objective of the project was to explore PhD graduates' experiences after returning to Kazakhstan to assist in identifying problems in academia in order to improve the quality of internationalisation strategies and policies in Kazakh higher education. The first point that became clear was that employing those who are open-minded towards internationalisation may assist in avoiding situations mentioned by Kristensen and Karlsen (2016) where some academics resisted or felt burdened by the internationalisation process at their universities. For instance, a majority of the survey participants had positive views on the favourable effect of the internationalisation process on higher education standards (82.9%) and enhancing teaching quality (78.9%) (Table 5-5). This outcome is different from that of Maudarbekova and Kashkinbayeva (2014) who found that 61% of faculty could not explain the essence of the process, whilst around 40% of them did not prioritise internationalisation. This difference is probably due to the returned PhD graduates' external academic mobility experience and that they are internationally oriented and this may result in them viewing the process positively.

This claim was confirmed by an interviewee, G7, who is working in one of the universities in Nur-Sultan, the capital city. According to her, through their deliberate attempt for around six years, the number of returned Bolashakers and graduates of Nazarbayev University reached 50-55 individuals (90% of the teaching staff), and this resulted in a number of changes including upgrading the university structures and improving the teaching content. In terms of recruiting academic personnel, these results slightly differ from Fok's (2007) who considers internationalisation in the context of Hong Kong universities. While Hong Kong universities focus on recruiting academic personnel from abroad, the current research found that Kazakh universities recruit mostly returned graduates as a strategy for internationalisation. Although the number of participants is smaller, the results are consistent with those of Lee and Kim (2010) and Wang *et al.* (2015) in terms of recruitment of returned PhD graduates. The former note that the majority of their faculty in the Education Department of a Korean university obtained their PhD degrees from the US, whereas the latter shows that 105 PhD holders amongst 158 PhD holders recruited in Chinese universities are returned graduates with foreign degrees.

This may indicate the process of quantity turning into quality through strict recruitment at certain Kazakh universities. It can be demonstrated by UM3 and UM1's experiences where the former was employed on a strictly competitive basis by the university chancellor and other faculty deans who are foreigners. Whereas the latter was concerned with employees' qualifications. He complained that some job applicants with foreign degrees do not bring any benefit.

Therefore, before employing new job applicants, his university considers in which university and from which country did they graduate. Only then do they take interviews and monitor their work. If no positive results, they look for other candidates. These results indicate two different recruitment approaches to develop internationalisation. First, recruiting foreign specialists as managers, and second, attracting returned graduates. This approach is consistent with Chinese universities' approach (Wang *et al.,* 2015), where universities are concerned with prospective applicants' quality and potential impact more than their degrees.

Regarding foreign managers, the Ministry of Education is also involved in transforming higher education management, which started a decade later than in the Taiwanese context (Mok and Cheung, 2011). In their reviews of strategic policies in Hong Kong universities, the government pursues an internationalisation strategy by recruiting quality staff globally and reorganising higher education management from a centralised model to a new

international market-oriented model. This is confirmed by UM2 and UM3 who noted the finance allocated by the Ministry of Education to recruit foreign top managers in higher education and their engagement in employing new job applicants. This process is limited to a restricted number of universities as noted by UM3.

At the managerial level, other universities seem to adopt an alternative approach to the internationalisation process because they prioritise the number or quantity of collaborations and memoranda with foreign universities rather than their quality. For instance, UM2 mentioned that they have memorandums with 170 foreign universities, whereas UM3 had to sign 10-15 agreements within two weeks to comply with the order of top managers. It can be interpreted that there is an understanding amongst university top managers that more agreements represent some sort of indicator of the quality of the internationalisation process. However, this is considered as the third myth by Knight (2011) who noted that from a practical perspective, universities cannot operate or profit from such a large number of agreements. It rather ends in paperwork but not effective relationships. It would be suggested that the managers reduce its number to twenty or even ten university partnerships to reach more balanced and thorough relations (p.16).

Universities have attempted to develop internationalisation by altering their teaching curriculum through participation and collaboration at the international level, and this finding partially aligns with Fok's (2007) results. For instance, while G7 received some advice from her foreign colleagues to develop their teaching programmes, G2 received his foreign colleagues' support when opening a doctoral programme at a Southern Kazakh university. This is one of the levels of international networks occurring in Hong Kong universities (Fok, 2007). However, two other levels of the network, academic exchange of faculty and commercial work (*Ibid.*), were not mentioned by the participants of the current research. This evidenced that although establishing quality international networks is still at an early stage, recruiting returned PhD graduates in universities can prevent the third misconception mentioned earlier because academic mobility can facilitate in building a dynamic network between graduates (Bhandari and Blumenthal, 2011) that may lead to international collaboration.

Similar to various contexts (Chua, 2016; Lee and Kim, 2010; Shin, 2012), the process of internationalisation in Kazakhstan can also be seen in universities' attempts to increase the number of programmes taught in English and faculty who use English as the language of instruction. To that aim, they attract returned Bolashak graduates. However, it is difficult to expect their impact on universities to be sustainable as universities do not or cannot

provide salaries to a sufficient extent. It can be seen from UM2's comments on salary. Rather following the Vietnamese approach (Chua, 2016) would be productive in terms of time and expense for upskilling faculty. For instance, Vietnamese universities encourage teachers to use English as the language of instruction by increasing their salaries by 2.5 times. Also, they can be promoted due to their English language skills, which were not strategies mentioned by the participants of the current research.

One may argue that linguistic variation may decrease due to the growing necessity for English (Robertson, 2010). As a result, the local language may be less prioritised by the young generation as exemplified in Taiwan (Skutnabb-Kangas, 2002). Interestingly, this point of view divided the majority of returned PhD graduates into two: 43.9% disagreed, and 30.9% agreed. This indicates that there are individuals who suspect the absence of a negative impact of English on the local language. However, all interviewees supported the majority by mentioning the significance of English in the time of the internationalisation process and the low quality of English amongst faculty in Kazakh higher education. For instance, G6 noted that 90 per cent of university programmes taught in English are just a formality, which puts doubt on the negative influence of English on the local language in the current situation. This was confirmed by the other two groups of participants. This result can be the consequence of Bolashak's mistake of prioritising bachelor's and master's degrees over the PhD level (see Section 2.2.1.2).

To solve this problem, a university in Almaty has recruited American specialists to teach English online to their twenty faculty. At first sight, it is a welcoming case, but it would be more efficient if their international collaboration skills were developed in addition to their English skills because the former can assist them to deliver training to international students (Yesufu, 2018) and build international links in their fields.

Despite the managers' attempts to increase the language skills of faculty, there are academic personnel who do not show any interest in developing their English skills even when delivered at the universities' expense. This type of internal obstacle toward internationalisation (Kristensen and Karlsen, 2016) could be due to the faculty mindset. This and other obstacles are discussed in the following section.

6.5.2 Barriers to the Internationalisation of Kazakh Universities

One interesting finding related to English is that universities did not overcome the low level of English among faculty for over a decade since Kazakhstan joined the Bologna

Process in 2011. It can be seen from the interviews of all groups of participants who acknowledged the issue of most faculty's inability to use English as the language of instruction at both urban and regional universities. This is consistent with the findings of Gazdiev (2013) who emphasised faculty's English level and competence as one of the reasons for the slow progress of the internationalisation process in Kazakh higher education.

After a decade, the current research confirms the same issue in higher education except for a university located in Nur-Sultan. Its manager (UM1) presented a totally different picture regarding their university strategy. The reason for that was employing returned PhD graduates who graduated from foreign universities such as Harvard, Oxford, Cambridge, and other top universities globally.

Furthermore, Gazdiev (2013) identified two other main reasons for the slow progress as such: the high price of studying abroad and visa-related issues. Although one may agree with the two reasons because welcoming policy and conditions of developed countries is changing due to economic distress (Chiou, 2017) and terrorist incidents (Choudaha, 2017), his argument on the low level of English amongst faculty as one of the main reasons for slow internationalisation progress can be contradicted.

The issue of English itself cannot be denied because it exists, and the research result is consistent with Gazdiev's (2013) findings. However, based on the results, one may argue that the faculty mindset could be the root of the low quality of internationalisation. For instance, IE3 criticised the local faculty saying they do not have lifelong learning principles to improve their knowledge in their fields, whereas G6 considered the mindset issue as an inheritance of the Soviet period.

For example, IE8 noted that there are academic personnel who are willing to pay others to author a publication instead of generating one for themselves. Whereas, IE3 complained that faculty do not show interest to take English classes even at the expense of the universities. These attitudes in higher education could be one of the elements that can stagnate the internationalisation process in Kazakh higher education. Increasing the number of returned PhD graduates in higher education and incentivising them to collaborate with local faculty can potentially change the Soviet mindset of local faculty who resist the implementation of new knowledge.

The next barrier to the internationalisation process is the incompetence of faculty in their fields. For instance, IE3 said that teachers in her department do not know the methodology

of their subjects, whereas G5 noted that university teachers do not know theories related to current international relations issues. Furthermore, G8 said that 70-80 years old theories are taught in their department that are very much irrelevant to the current social reality of Kazakhstan. These issues were common for both survey and interview participants.

Although these are not pleasant findings, they indicate that Kazakh higher education has experienced a new wave of knowledge as a result of academic mobility, and it is benefiting Kazakh higher education by exchanging knowledge and skills (Bilecen and Mol, 2017). It also can be expected to assist universities in competition internationally through returned PhD graduates as in the South Koran context (Kim, 2010).

Obviously, this problem is unlikely to be eliminated soon unless Bolashak increases the number of PhD graduates and ensures their successful integration into academia upon graduation because another barrier to internationalisation is the insufficient number of returned PhD graduates. Without sufficient PhD graduates with international knowledge and experience, opening new teaching programmes can be unattractive for international students in terms of their quality. For instance, when asked who teaches currently opened teaching programmes, G4 noted that the majority are graduates with master's degrees from local universities because PhD holders comprise the minority at their university. The situation in Kazakh universities is impacted further because as seen, some returned PhD holders in higher education decide not to work in higher education due to various reasons ranging from limited knowledge resources to low salaries (32.5%). In terms of increasing the quality of the internationalisation process, this study confirms the suggestions of the ex-president of Bolashak, Sayasat Nurbek, (Perna *et al*., 2015) who said that Kazakhstan needs thousands of graduates with foreign PhD degrees in many fields to advance the country.

Moreover, it is also suggested that the slow progress of internationalisation could be due to the older generation who grew up with the Soviet idea and are still in leadership and management positions at universities and perhaps more so in regional universities. They are more concerned with the number of their results rather than the quality, and it can be seen in interview results where participants mentioned the orders from above regarding the number of university partnerships and teaching programmes. This is consistent with the views of De Wit (2013) and Knight (2015), who argue that a quantity-based approach may negatively affect the morality and quality of the internationalisation of higher education. It could be suggested that the government should be interested in the returned PhD graduates' career progress not only in research but also in management. This is likely to

encourage the returned PhD graduates to work in regional universities to develop and improve the internationalisation process in these areas.

6.6 Brain Circulation and Its Barriers

As mentioned in the literature review, there are various types of brain circulation and its barriers (Saxenian, 2005; Daugeliene and Marcinkeviciene, 2009; Gaillard *et al.*, 2015; Rinkevičius and Kazlauskienė, 2006), and its successful application depends on the countries' policies that target circulating knowledge between sending and hosting countries (Ortigo *et al.,* 2018). According to the data, it was evident that brain circulation process started between returned PhD graduates and their foreign colleagues. However, brain circulation between intellectual emigrants and local scholars still needs attention from the government. All these issues are discussed in separate sub-sections.

6.6.1 Brain Circulation between Returners and Foreign Scholars

Since brain circulation is a new area to investigate in the Kazakhstan context as mentioned in the Nazarbayev University Strategy for 2018-2030, it would be beneficial to discuss the issue in more detail to be able to recommend further approaches for its successful application and avoid barriers. In earlier sections (additionally, see Section 5.2.5.2) regarding PhD participants, it was shown that through collaborating with their foreign colleagues, they have opened new programmes in higher education and organised research seminars involving foreign professors in their specific fields. These results reflect those of Yuping and Suyan (2015) who also found that returned graduates, or *sea turtles*, had a significant influence on Chinese science development.

One can acknowledge Bolashak's return policy as a minimiser of brain drain (Knight, 2012), but it still has limitations in terms of brain circulation due to its strict rules that require returned graduates to locate in Kazakhstan to work for three to five years uninterrupted. This requirement seems to prevent brain circulation practice between Bolashakers and foreign colleagues. For instance, if the graduates spend more than 40 days abroad, Bolashak does not accept it as a work obligation period. On one hand, this restriction limits the returned PhD graduates' opportunities to visit foreign labs in the purpose of collaboration. On the other hand, universities cannot provide them with adequate labs and other technical facilities. Rather than limiting freedom (Ortiga et al., 2018), advancing the mobility of highly skilled individuals that can influence knowledge

sharing among various higher education institutions (Daugeliene and Marcinkeviciene, 2009) might be more productive in terms of internationalisation.

Furthermore, the one-degree-at-a-time policy and immediate-return rules limit Bolashakers from further study or work experience which can consequently affect brain circulation negatively. Outwardly, Bolashak seems to play an important role in brain gain by returning the participants immediately after graduation, but its effect is short-term because it results in Bolashakers' difficulties to find jobs in Kazakhstan suitable for their foreign degrees. Consequently, they lose their motivation to take up further foreign study or work experience opportunities in their fields. Instead, the Taiwanese approach discussed earlier may be a more productive strategy (Saxenian, 2002).

For instance, in Saxenian's (2002) study where a Taiwanese Miin Wu went to the US to study PhD and stayed for further work experience. That way the exemplar obtained work experience at top companies for ten years allowing him to build a business connection between Taiwanese and US stakeholders. As can be seen, some participants of the current research returned but found no suitable-to-their-degrees jobs. Additionally, they must return despite their opportunities to further study or work experience after studying abroad. These restrictions may seem to limit the brain circulation exemplified by Saxenian (2002, 2005).

However, one might argue that settling overseas after graduation leads to brain drain (Oosterbeek and Webbink, 2011; Miranda, 2008), but it could be turned into brain circulation as evidenced in Chinese, Indian, and Taiwanese contexts (Saxenian, 2002; Zweig and Wang, 2013; Ortiga *et al.*, 2018) through a strategic policy that had a huge impact on home country and research in local higher education in the long run.

Additionally, the brain circulation concept could be applied within the Kazakhstan context. Since most returned graduates favoured staying in major cities due to the aforementioned problems in regional universities, it is necessary to expand the scope of Bolashak Alumni Networking by encouraging Bolashak graduates to collaborate with their colleagues in regional universities. Incentivising the returned PhD graduates, especially those with foreign academic work and publishing experiences, to collaborate with regional faculty enabled by technology such as video conferencing without relocating them to regions may possibly contribute to improving the quality of regional universities.

6.6.2 Brain Circulation between Intellectual Emigrants and Local Scholars

On the question of intellectual emigrants' intention to circulate knowledge between Kazakhstan and countries they are located, this study can confirm that Kazakh higher education can benefit from them in terms of research and teaching collaborations if the government takes a strategic approach adopting return policy from other contexts (Yuping and Suyan, 2015; Ortiga *et al.*, 2018; Zou and Laubichler, 2017; Tung, 2008; Chacko, 2007) or develop their own strategies.

However, these findings cannot be extrapolated to all intellectual emigrants because not all of them were eager to engage in collaboration with Kazakh higher education (see Methodology chapter), and this is one of the obstacles for the brain circulation to occur. Therefore, future research should be undertaken to investigate intellectual emigrants' interests, expectations, and availabilities to engage in research and business in Kazakhstan.

A systematic approach to engaging the intellectual emigrants is suggested to focus on mostly short-term engagement because the participants did not show interest in a long-term partnership. IE1's openness to only short-term collaboration if there is an offer from Kazakh universities shows the necessity of focusing on short-term collaboration. This finding is consistent with that of Ortiga *et al.* (2018) who examined the contribution of full-time and part-time returners. The difference between the two studies, however, is in the reasons for the limited brain circulation. If the reasons in Ortiga *et al.*'s (2018) findings were academic freedom, constraints on research funds, and limits on data crossing borders, the findings of the current research were different reasons. First, university managers' inaction or inability to attract intellectual emigrants to collaborate with local university faculty. Second, no government programme was mentioned by the participants that targeted returning intellectual emigrants as in different contexts (see Brain Circulation Section in Chapter **Error! Reference source not found.**). This shows that the government should design plans in order to attract them to return.

When the qualitative data were analysed, it was evident that involving intellectual emigrants in research or business collaboration was a new idea amongst university managers, whereas it has been implemented in various contexts successfully to promote their research, public, and economic advancement (Zou and Laubichler, 2017; Tung, 2008; Chacko, 2007).

In earlier decades, these countries experienced brain drain issues but managed to turn it into brain circulation benefiting now from the input of intellectual emigrants. Similarly, Kazakh universities can benefit from intellectual emigrants' knowledge, skills, and networks too if thoughtful actions are initiated by the university managers.

Managers' inaction or failure to attract intellectual emigrants was confirmed by the latter. They have never received invitations from any universities to collaborate with local faculty although they are open to research and business collaborations related to their fields such as medicine, IT, business, management, and finance. On the contrary, ties or networking should be nurtured because for brain circulation to occur, networking should be encouraged, and knowledge-sharing initiatives should be developed (Saxenian, 2002; Daugeliene and Marcinkevicience, 2009). Through a systematic approach by the government and higher education, the knowledge and experience of the intellectual emigrants could be utilised for the benefit of science, public, and economic development of Kazakhstan as demonstrated in other contexts (Zweig and Wang, 2013; Welch and Cai, 2011; Ortiga *et al.*, 2018).

Involving intellectual emigrants in research collaboration may further improve the internationalisation process in Kazakh higher education. As evidenced in earlier sections, collaboration projects with foreign scholars failed due to low levels of English competence among local faculty. Since local faculty and intellectual emigrants have common languages, Kazakh and Russian, they could collaborate without being limited to English. Obviously, English plays a significant role in international collaboration, and it was emphasised by all participants. However, involving intellectual emigrants in research collaboration could benefit local faculty with limited English levels but with deep knowledge and experience in their specific fields. To initiate brain circulation successfully, the government is suggested to adopt a new law that secures the equality of rights of intellectual emigrants, no matter whether they return for the long term or short term. Their legitimate income in Kazakhstan should be transferable to their foreign bank accounts whenever they prefer as it was implemented productively in the Chinese context (Tung, 2008).

7 Conclusion

7.1 Introduction

The overall aim of the research was to explore a) the general experience of the returned PhD graduates ranging from their motivations to study abroad to their expectations and experiences of career progression upon return, b) their emigration aspiration after fulfilling their labour contract, and c) to attempt to recommend pragmatic solutions to overcome brain drain issues and increase the quality and effectiveness of internationalisation in higher education through reconsidering the policies of the Bolashak programme through engaging intellectual emigrants in the process.

Achieving these goals was possible by following an explanatory mixed-method research design and involving three different groups of participants that revealed important preliminary data concerning the issues of brain drain, the internationalisation process, and the limited brain gain policy of Bolashak. A summary of certain main findings, together with research contributions and further recommendations is provided in the following sub-sections. Furthermore, this research was not without limitations, and they are examined later in the chapter.

7.2 Summary of Main Research Findings

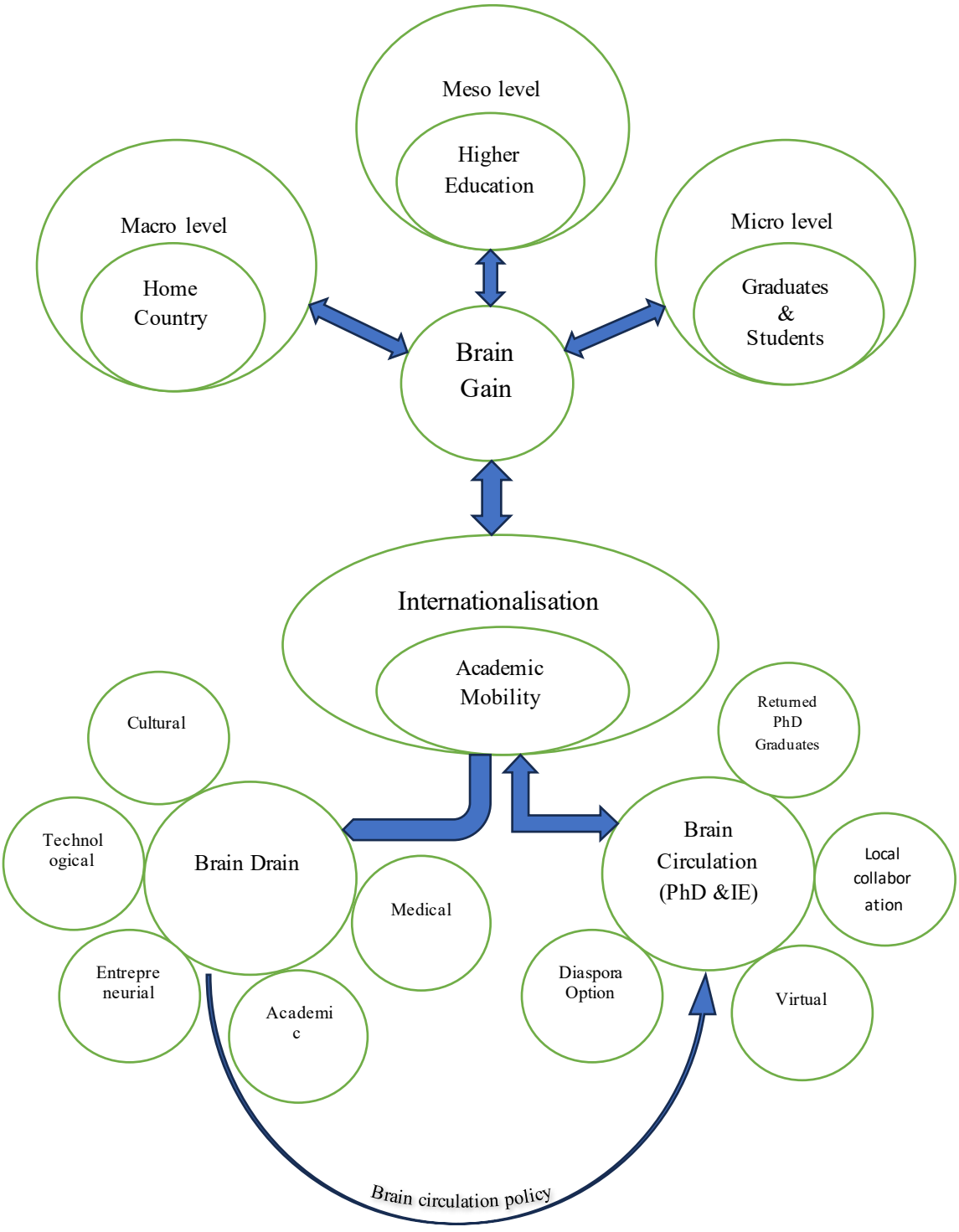

Figure 6 Diagram of Conceptual Framework

To help structure the presentation of findings, the researcher invokes a conceptual framework depicted diagrammatically in Figure 6, which illustrates the consequences of academic mobility, an important aspect of the internationalisation process in higher education (Knight, 2013). It can be advantageous (Hunger, 2002) or disadvantageous

(Vervekin, 2017) for sending countries and their higher education systems depending on the approach adopted.

The diagram shows that, in theory, academic mobility benefits or enhances the internationalisation of higher education through the return policy and integration of returned PhD graduates into higher education. This gain is not limited to higher education; it can also be beneficial at macro and micro levels. This can be observed in the qualitative data presented, where certain interviewees mentioned the government's changing stance towards a more democratic state, *hearing state*. This policy shift appears to be the initial step for returned graduates to influence the country's progress in democracy.

Certainly, according to the data, some are successfully employed in higher education upon return and attempt to have a positive impact on teaching quality. Although the progress is small and slow, one can see their positive influence on higher education quality where new programmes are opened by the returned PhD graduates in collaboration with their foreign colleagues, and where universities are being turned into a discussion point between scholars and politicians. The limited number of returned PhD graduates (Nurbek**,** 2013**)** in higher education could be one of the reasons for this slow progress.

Unfortunately, in the time of internationalisation, universities do not follow the model (Figure 6) to its full potential in the Kazakhstan context due to various obstacles explored in this study. First, the limited direct impact of academic mobility on internationalisation is due to unfavourable policies within universities that cause negative experiences for the returned PhD graduates. As the results revealed, after the returned PhD graduates were employed, they were subjected to injustice in terms of their career progression. Furthermore, appointments at certain universities happen based on connections rather than on candidates' experience obtained abroad.

Moreover, the returned PhD graduates feel undervalued in terms of salary and university conditions. They are provided ten times lower salaries compared to their foreign colleagues who visit Kazakh universities. This imbalance was considered unjust by IE4 (see Section 5.2.7.4). This approach may cause the graduates to doubt their value and necessity to their homeland. This unfair and undervalued attitude harms the integration of the returned PhD graduates into the development of the internationalisation process. Furthermore, the failure of universities to provide returned PhD graduates with laboratories, resources, and reliable internet, while demanding a high number of teaching hours, is noted as an additional obstacle. These shortcomings demotivate certain participants from working in higher

education and can negatively affect the graduates' further development in their respective fields.

Interestingly, a certain aspect of Bolashak's return policy was found to cause obstacles for the returned PhD graduates to develop their skills and competencies through collaboration (brain circulation) with top foreign universities. As mentioned in Chapter Two, Bolashak started sending individuals abroad to study in 1993. Accordingly, certain rules need to be reconsidered so that the graduates could impact various fields without being physically tied to the country; and, allow them to update their knowledge by visiting top universities for a longer period while still being able to fulfil their labour contract responsibilities in Kazakhstan. For instance, if the time spent abroad by the graduates exceeds forty days, Bolashak does not consider it as abiding by the contract which stops some returned graduates from participating in foreign internships at top higher education institutions that last for more than forty days. Further internship period should not be considered as a loss. Instead, by allowing the returned PhD graduates to take this type of opportunity, Bolashak would develop brain circulation between Kazakh and top foreign universities which is highly likely to have a positive impact on the internationalisation quality of Kazakh higher education. The reason why the returned PhD graduates should be allowed to do internships with a longer time period is that they are already adapted to foreign study and are experienced compared to their local colleagues, which may allow them to absorb more information and gain relevant experience specific to their field in a short period.

To accelerate the internationalisation process and increase its quality, the government and the university managers should attempt to systematically solve the issues and eliminate the obstacles mentioned above because their results-based approach to internationalisation is highly likely to negatively affect the morality and quality of the internationalisation of higher education (Wit, 2013, 2017). In addition, they could adopt and adapt brain circulation policies and practices from the Chinese and Indian contexts and incentivise collaboration between returned PhD graduates and their local colleagues. Unless the returned PhD graduates are valued, provided with further research development, sufficient salaries, fair career advancement, and treated equally with other visiting foreign scholars, Kazakhstan will most probably continue to experience brain drain.

The second research question of this study was to investigate the returned PhD graduates' emigration aspirations after obtaining their foreign degrees. Although most participants returned and preferred to work in Kazakhstan, a limited number of returned PhD graduates in higher education and their emigration aspiration puts doubt on the sustainability of the

change and quality of higher education. When analysing, their plans after labour obligation, both quantitative and qualitative results showed the increased desire of the participants to emigrate. Having analysed the data, it can be concluded that unless the graduates are valued despite their religions and gender, treated fairly in terms of their career progression, and provided research opportunities to develop further, Bolashak's policy through signing contract alone cannot stop the outflow of returned PhD graduates in the long run. These are the main push factors explored in the current research. In addition to the return policy, the findings show consistency with previous literature and indicate that, despite experiencing a brain drain, Kazakhstan can transform it into a gain through a brain circulation policy that involves intellectual emigrants in the process of internationalisation (Yuping and Suyan, 2015).

The current research also explored pull factors. The pull factors for those who wanted to stay were high remuneration, a competent and supportive working environment, a better future for their children, and a better climate. Returned PhD graduates specifically aspire to work with top scholars and at top universities and research centres where they find possible further development. These same factors influenced certain intellectual emigrants' decisions to emigrate. As evidenced, the Bolashak contract minimised (Knight, 2012) brain drain, but it could not stop certain Bolashakers from emigrating after or even without fulfilling their labour obligation.

From a nationalist perspective, this issue can be detrimental to Kazakhstan as a source country (Naumova, 1998; Mainali, 2019) because, after three to five years, the country may probably lose its investment if most participants decide to emigrate. For that reason, the government needs to take an internationalist approach (Ansah, 2002) rather than simply monitoring the returned PhD graduates until they fulfil their labour obligation. In this situation, brain circulation is of great importance.

In the time of internationalisation, Kazakh universities are limited to recruiting returned PhD graduates only whereas universities in other developing nations (see Brain Circulation 3.4) have engaged their intellectual emigrants as the source of research and business collaboration. Therefore, this research shows the necessity of initiating research and business collaboration with intellectual emigrants in addition to employing the returned PhD graduates which seems to be a new idea for UM participants (see Results 5.2.8.2). University managers (UM) acknowledged that they had never considered or attempted to approach intellectual emigrants in terms of collaboration, whereas this inaction was confirmed by the latter. It follows that the Ministry of Education and higher education

managers are suggested to put more effort to attract intellectual emigrants in the process of internationalisation of Kazakh higher education.

Lastly, allowing PhD graduates whose circumstances suggest staying abroad upon graduation (e.g., IE9 and IE3, and a survey participant's qualitative response) is likely to accelerate the internationalisation process in Kazakh higher education in the long term as exemplified in Chinese, Indian, and Taiwanese contexts (see Saxenian, 2005 and Yuping and Suyan, 2015 for example). With limited data supply and laboratories in Kazakhstan, PhD graduates who specialised in corporate finance and nanowires or any other fields that are lagging in Kazakhstan may lose their competencies by simply teaching in Kazakh higher education for five years where they do not have access to data and laboratories (see Chapter 5). Indeed, it can be suggested to allow them to stay abroad but with a requirement to supervise local Kazakh students to increase the number of individuals in those specific fields that may consequently result in improvements in these disciplines in the Kazakhstan context. Five or ten years may seem to be a loss for the source country, but if one considers the benefits of engaging intellectual emigrants abroad in the research and business in Kazakhstan as in other contexts, this time period could probably be a shorter route to develop fundamental research capacity in Kazakhstan.

Following this one can conclude that the internationalisation of Kazakh higher education could be improved through four types of brain circulation practises: first, through reconsidering certain aspects of Bolashak that puts barriers to Bolashakers to collaborate with foreign universities, and second, through engaging intellectual emigrants (diaspora option) into research and business that has been neglected thus far by university managers. Third, incentivizing the returned PhD graduates to collaborate with their regional colleagues can result in more productivity for regional Kazakh universities in terms of teaching and research quality and avoid misconceptions (Knight, 2011; De Wit, 2013, 2017) that UM participants have followed (see 5.2.2). Lastly, improved internet conditions could potentially foster virtual brain circulation (Petroff, 2016; Yazdani *et al.*, 2019), enabling and encouraging returned PhD graduates to exchange ideas and knowledge with intellectual emigrants and foreign colleagues.

7.3 Contribution of the Study

7.3.1 Contribution to Knowledge

To the best of the author's knowledge this is the first empirical investigation into the attitudes of returned Kazakh PhD graduates – that is to say, motivation to study abroad, obstacles and benefits upon return, and their emigration aspirations. Previously, little has been done to explore the experiences of PhD graduates with foreign degrees after their return to Kazakhstan. While previous studies in the Kazakhstan context (Perna *et al.*, 2015; Bekbauova *et al.*, 2017; Alibekova, 2018) used only interviews with returned master's degree holders and Bolashak managers, the current research attempted to delve into the returned PhD graduates' overall experience by applying explanatory sequential mixed-method research design. Also, the internationalisation process was explored from the perspectives of three different groups of participants as such: returned masters and PhD graduates, university managers, and intellectual emigrants.

While certain studies (see Gbollie and Gong, 2020; Glencross and Wills, 2006 for example) explored that self-development factors motivated international students to study abroad, this study delved into this issue and explored self-development from two perspectives. For instance, G4 focused on self-development to make an impact on the Kazakh science system, whereas G3 considered self-development as the opportunity to fit in any corner of the world with her foreign degree. These findings indicate that students' study motivation needs to be investigated deeper because not all participants are eager to return.

7.3.2 Contribution to Higher Education Policy

In practical terms, the insights gained from this empirical study may be of assistance to officials of Bolashak to reconsider a thirty-year-old labour contract that seems to be an obstacle to the circulation of knowledge in the current world between Kazakhstan and developed nations through the returned PhD graduates and intellectual emigrants. From the former's perspective, the findings show that they are eager to develop further in their fields, but the centre limits the returned graduates from further research development opportunities by requiring them to be located within the country. This contradiction could be eliminated by allowing the returned PhD graduates to take internship opportunities for further development purposes within a longer period. This new practice likely benefits individual researchers as well as research in Kazakhstan.

From intellectual emigrants' perspective, this research introduced a seemingly new idea of brain circulation to Kazakh university managers that possibly accelerate and improve the internationalisation process. Also, it could be suggested that the policymakers adopt and implement brain circulation strategies of other developing countries (India and China) that have been able to turn brain drain into brain circulation successfully. It should be implemented at the earliest opportunity because most participants indicated their emigration intentions. In case they emigrate, a prepared strategy may assist in turning brain drain into brain circulation.

Moreover, brain circulation practice could be applied between universities within the country which possibly broadens the influence of the returned PhD graduates to other regional universities. As can be seen from the results, PhD participants did not show eagerness to move to regions even though they could fulfil the contract in a shorter period. This was because they preferred to work in an environment (major cities) where comparatively they could prosper further in their fields. This issue could possibly be solved by applying a brain circulation strategy between regional and urban universities. For instance, incentivizing Bolashak alumni with PhD degrees to collaborate with their colleagues from regional universities without relocating to regions could be one approach. Encouraging them to visit regional universities for a shorter time period to share new knowledge, ideas, and experience could be another approach to adopting brain circulation according to the necessity of Kazakh universities.

7.4 Limitations of the Study and Adaptation Tactics

Despite the researcher's attempt to recruit a significant number of participants with foreign PhD degrees, their sample size comprised a minority, and this is subject to the limitation of the research. This small sample size did not allow the researcher to generalise the findings to the whole population of the returned PhD graduates. However, to prevent a lack of data, the researcher applied ethical amendments to recruit returned graduates with other levels of degrees to gain an understanding of the general experience and aspirations of all graduates. That way the number of the survey participants reached 123 respondents. Nevertheless, this small number indicates that although the number of returned graduates is increasing in the Kazakhstan context, they showed low interest in participating in the current research despite the researcher's attempt to recruit a significant number of participants.

An increased number of participants could probably result in stronger findings. Whilst this study did not meet the generalisability criteria, it could provide solid and empirical

evidence to reach the research aim regarding the experience of returned PhD graduates because the findings from different groups of participants still have general relevance. Furthermore, to better understand returned PhD graduates' experience and emigration aspirations, the researcher recruited only those who had already returned to Kazakhstan after obtaining their PhD degrees from top foreign universities. This approach allowed the researcher to gain a deeper knowledge about their experiences although the results were based on the smaller number of PhD participants.

Another limitation in terms of the number of participants is related to the group of university managers (UM). The causes of this issue were the travel restriction due to Covid-19 and the limited time of UMs. The researcher could not take face-to-face interviews with them which might have possibly resulted in a bigger sample of this group. Moreover, involving more university managers in different regions through a survey would have allowed the researcher to consider the internationalisation process qualitatively and quantitatively dividing universities into two groups: regional and urban universities.

The same issue applies to the group of intellectual emigrants although their number is relatively higher than the former. The researcher was limited to interview data due to limited time to design a survey and limited direct access to the pull of intellectual emigrants. Here, one might argue that the research design should have been developed to fit into the time frame of the current PhD thesis. However, as can be seen in the Methodology chapter, the researcher applied for an ethical amendment and changed the research design from pure qualitative to a mixed-method research design.

As shown in the earlier sections, the study is limited by the lack of information on the career perspectives of returned PhD graduates who follow their religious rituals or requirements. Considering this issue in the current research would have provided more information on how or whether religious rights are protected amongst returned PhD graduates. Furthermore, the scope of this study was limited to the gender perspectives that the researcher did not consider initially. The career progress of male and female foreign PhD holders may provide more information on gender equality in the Kazakhstan context.

Next, the internationalisation process was considered from the perspectives of three different groups' perspectives (G, UM, and IE). However, involving another group of participants, inbound international students, would possibly provide more fruitful outcomes. Their satisfaction with the quality of Kazakh universities, their expectations, and aspirations to stay in Kazakhstan after graduation if they have any would probably

generate new insights into the internationalisation process of Kazakh higher education and brain gain and brain circulation strategies.

Finally, the researcher used descriptive statistics to analyse the survey data that only provided outcomes regarding the survey participants. There is potential to expand on this through inferential analysis of the data in future research.

7.5 Further Research

Having reflected on the current research findings, one can note that considerably more work will need to be done to explore the influence of returned PhD graduates on the internationalisation process and the obstacles they experience after a return. One of them could be delving into their career prospects from religious and gender perspectives as the current results suggest, females with religious clothing styles may encounter more obstacles in higher education.

Next, further research needs to examine more closely the returned PhD graduates' influence on their specific fields. As one can see, a university manager noted that they experience a limited number of faculty with English language competence in biology, whereas it can be notable from a returned PhD graduate's interview that the faculty in IT at their university is mostly master's degree holders.

Furthermore, longitudinal research to explore the experiences of returned PhD graduates in terms of their career progression from the time they returned to Kazakhstan may possibly provide even more specific and detailed experiences in their career progression. Following this approach, one can possibly delve into how some graduates succeed in terms of their career and what affects others' stagnation, failure, or even change of career because not only the diploma affects the graduates' career progress.

In addition, it is necessary to investigate the impact of international academic mobility on the graduates' lifelong learning principles. The reason for that is the low percentage of the publication amongst the participants. For instance, the survey results showed that only a minority of graduates managed to get published, and the primary reason for that was lack of time. This reason could be valid in terms of the context where universities are mostly teaching-oriented rather than research and doing research does not most of the time generate income for scholars as shown in this study. Not getting published is likely to depend on the participants' attitudes and principles toward research. Investigating this issue further may uncover the reasons for the limited research done in the Kazakhstan context. Moreover, having identified the intention of intellectual emigrants to collaborate

with local scholars, further exploring possible bureaucratic, cultural, or political obstacles would be beneficial to accelerate the process and result in a beneficial brain circulation between Kazakhstan and developed foreign countries.

Although several forms of brain circulation, brain gain, and brain drain were taken into consideration in the literature, it was not possible to test all of these ideas in the current study. As a result, it remains for future research to carefully consider the various categories comprising brain circulation, brain drain, and gain within the context of Kazakhstan. Such an extensive inquiry promises to offer a more nuanced understanding of the particular domains within these conceptual paradigms, which will be necessary to address the current brain circulation and brain drain issues. Additionally, this examination has the potential to identify the precise levels at which brain gain manifests productivity limitations, providing insightful information for targeted policy interventions.

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Appendices

Appendix 1 Ethical Approval

University of Glasgow

College of Social Sciences

11 December 2020

Dear Aidos Myrzabek

College of Social Sciences Research Ethics Committee

Project Title: The Impact of PhD Holders with Long-Term External Academic Mobility Experience and Intellectual Emigrates on the Internationalisation of Kazakh Higher Education: Implication, Challenges, and Suggestions.

Application No: 400200068

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: 11/12/2020
- Project end date: 30/12/2022
- 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. Permissions you must provide are shown in the *College Ethics Review Feedback* document that has been sent to you as the Collated Comments Document in the online system.
- 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)
- The research should be carried out only on the sites, and/or with the groups and using the methods defined in the application.
    - **Approval has been granted in principal:** no data collection must be undertaken until the current research restrictions as a result of social distancing and self-isolation are lifted. You will be notified once this restriction is no longer in force.
- 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/

Yours sincerely,

Dr Muir Houston

Muir Houston, Senior Lecturer
College of Social Sciences Ethics Officer
Social Justice, Place and Lifelong Education Research
University of Glasgow
School of Education, St Andrew's Building, 11 Eldon Street
Glasgow G3 6NH
0044 141 330 4699 Muir.Houston@glasgow.ac.uk

Appendix 2 Plain Language Statement (PLS)

University of Glasgow

College of Social Sciences

Plain Language Statement

Title of project and researcher details

The Impact of PhD Holders with Long-Term External Academic Mobility Experience and Intellectual Emigrates on the Internationalisation of Kazakh Higher Education: Implication, Challenges, and Suggestions.

Researcher: Aidos Myrzabek

Supervisors: Dr Muir Houston and Dr Kristinn Hermannsson

Course: Education, School of Education

You are being invited to take part in a research project into the impacts of PhD holders and international emigrates on the internationalisation of higher education in Kazakhstan.

Before you decide if you want to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the information on this page carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

I hope that this sheet will answer any questions you have about the study.

1. What is the purpose of the study?
The purpose of this study is to find out what impact PhD graduates with foreign degrees have on the development of Kazakh higher education. Also, it covers what obstacles and benefits they have during their first five-year work experience as well as their long-term plans for their future career. The second purpose of the study is to find out how intellectual emigrates can facilitate brain circulation between Kazakhstan and developed countries.

2. Why have I been chosen?
You are being asked to take part because you are a PhD holder with foreign degrees who experienced long-term external academic mobility / an intellectual emigrate.

3. Do I have to take part?
You do not have to take part in this study. If you decide not to take part, you will still have the right to withdraw at any time without a given reason. If, after you have started to take part, you change your mind, just let me know and I will not use any information you have given me in my writing.

4. What will happen to me if I take part?
If you take part, you will be asked some questions about your experience as a PhD graduate with a foreign degree / an intellectual emigrate and your ideas about the internationalisation of higher education in Kazakhstan. You do not have to answer any question that you do not want to. The interview will take about one hour. I will audio record the interview so that I can analyse the data thoroughly for the research purpose.

5. Will the information that I give you in this study be kept confidential?
I will keep all the data I collect about your personal data (name, age, etc.) in a locked cabinet and in a locked file on my computer. When I write about what I have found, your name will not be mentioned. You may choose a pseudonym which I will use when writing up the final assignment.
However, if during our conversation I hear anything which makes me worried that you might be in danger of harm, I might have to inform relevant agencies of this.

6. What will happen to the results of this study

I will analyse the data I collect from participants, and present this in the dissertation which I am writing for my qualification, PhD in Education. All participants will receive a written summary of the findings and I will also present the information to colleagues. I will destroy the data at the end of the project.

7. Who has reviewed the study?
This study has been reviewed and agreed by the School of Education Ethics Forum, University of Glasgow

8. Who can I contact for further information?
If you have any questions about this study, you can ask me,

or my supervisor, **Dr Muir Houston** 0141-330-4699 (Muir.Houston@glasgow.ac.uk)

and my second supervisor, **Dr Kristinn Hermannsson** (Kristinn.Hermannsson@glasgow.ac.uk)

or the Ethics officer for the School of Education, education-ethics@glasgow.ac.uk

Thank you for reading this.

End 17.11.2020

Appendix 3 Consent Form

University of Glasgow

College of Social Sciences

Consent Form

Title of Project: The Impact of PhD Holders with Long-Term External Academic Mobility Experience and Intellectual Emigrates on the Internationalisation of Kazakh Higher Education: Implication, Challenges, and Suggestions

Name of Researcher: Aidos Myrzabek

I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time during the data collection and analysis phase, without giving any reason.

I acknowledge that participants will be referred to by pseudonym.

- All names and other material likely to identify individuals will be anonymised.
- The material will be treated as confidential and kept in secure storage at all times.
- The material will be retained in secure storage for use in future academic research
- The material may be used in future publications, both print and online.
- I understand that other authenticated researchers may use my words in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form

I acknowledge the provision of a Privacy Notice in relation to this research project.

I consent / do not consent (delete as appliable) to interviews being audio-recorded.

I acknowledge that copies of transcripts will be returned to participants for verification.

I agree / do not agree (delete as applicable) to take part in the above study.

Name of Participant ..... Signature ..... Date .....

Name of Researcher Aidos Signature Date 14.01.2021

Appendix 4 Ethics Amendments Approval

University of Glasgow

College of Social Sciences

College Research Ethics Committee

Request for Amendments - Reviewer Feedback

Ethics Committee for Non-Clinical Research Involving Human Subjects

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Application Details

Postgraduate Student Research Ethics Application

Student id. Number if applicable:

Application Number: 400200068

Applicant's Name: Aidos Myrzabek

Project Title: The Impact of PhD Holders with Long-Term External Academic Mobility Experience and Intellectual Emigrates on the Internationalisation of Kazakh Higher Education: Implication, Challenges, and Suggestions.

Original **Start** Date of Application Approval: 11/12/2020

Original **End** Date of Application Approval: 30/12/2022

Date of Amendments Approved: 27/04/2021

Outcome: Amendments Approved

Reviewer Comments

Please retain this notification for future reference. If you have any enquiries, please email socsci-ethics@glasgow.ac.uk.

University of Glasgow
College of Social Sciences
Florentine House, 53 Hillhead Street. Glasgow G12 8QF
The University of Glasgow, charity number SC004401

Appendix 5 Themes

Main themes	Sub-themes	Details	Specific details
Internationalisation in Practice	Attempt to Internationalising KHE	Attracting returned graduates	
		Accreditation	
	Collaboration between universities	Increase faculty quality	
		Memorandum	
		Academic mobility	
		Faculty exchange	
		Conference	
		Joint Programmes	
		Inviting foreign to managers	
		Collaboration between scholars	
	Foreign students	Attract foreign students	
		Low N of foreign students	
		From developing/neighbouring countries	
	Opinion on Kazakh Language	Necessity of English	
		No harm to Kazakh	
	Barriers to Internationalisation	Conditions of universities	Low salary
			Limited basic necessities (books, labs, internet)
			Bureaucracy
		Role of English	English is important
			Low level of English
		Competence in their field	Low competence in their field
			Limited publications
		Faculty mindset	Lack of life-long learning principles
			Quantity-based approach
Graduates' motivation and challenges	Motivation to study abroad	Change education and science system	
		Further development	

		Integrate new technology	
	Challenges during study	Loneliness	
		Knowledge gap	
		Language gap	
		Supervisors	
		Family responsibilities	
		Change of research area	
		Limited awareness of education system	
	Choice of university	Campus	
		Supervisors	
Stay and return reasons	Stay reasons	Finance	
		Career opportunities/advancement	
		Start a business	
		Scientific environment	
		Better future for their children	
	Return reasons	Family tie/responsibilities	
		Have an impact on Kazakhstan	
		Moral obligation	
		Bolashak contract	
Experience after return	Challenges in career progress	Degree and career mismatch	
		Finding a job	
		Cultural habits	
		Lack of time	
		Bureaucracy	
		Islamic clothing style	
		Unvalued as experts	
		Personal connections	
		Unsupportive environment	
		Bribery	
	Positive experience	Gained higher positions	
		Felt accepted	
	Graduates' future plans	Go abroad for work experience	
		Emigrate	
	Reasons for IE to emigrate	To have a better life	
		To experience a foreign life	
		High salary	
		Competency of colleagues	
		Marriage	
		Ecology	
	On graduates	Increased self-confidence	
		Teaching experience	
		Do research independently	

Influence of foreign study		Competent in their field	
		Networking	
		Publishing	
	On higher education	Knowledge sharing	
		New teaching programmes	
		Improved teaching environment	
		Universities as a discussion area	
	On the country	Constitutional reforms	
		Introduction of world-class literary works	
		Democracy	
		Economy	
		Solution to local problems	
Brain circulation: barriers and success	Bolashak graduates	Their supervisors involved in internationalising KHE	
		Benefited from their international networking	
	Disadvantages of Bolashak	Strict rules	
		Ineffective policy	
		Top 100 university rule	
	Intention to circulate knowledge	Ready for collaboration in their field	Short-term collaboration
			Long-term collaboration
		Not invited to collaborate	
	Inaction of university managers	Never considered IE to collaborate	

Appendix 6 Questionnaire (Version 1)

Questionnaire

As part of the project that focuses on the internationalisation of higher education in Kazakhstan, the survey targets PhD graduates who obtained their PhD degrees abroad. Specifically, their experiences and aspirations. The questionnaire will take 10-12 minutes to complete.

You can withdraw from participating in the survey at any time if decided so. However, only the researcher and supervisors can access the data collected from the survey regarding the respondent's anonymity. All the data will be kept anonymous and confidential, and participants will not be identified. So, there is not any risk for participant's confidentiality. Also, by completing this questionnaire, you can help improve the internationalisation of higher education in Kazakhstan.

This research project has been considered and approved by the College Research Ethics Committee of the University of Glasgow.

If you require any further information about the study, you may contact either the researcher or his supervisors using the details above.

To pursue any complaint about the conduct of the research: contact the College of Social Sciences Ethics Office, email: socsci-ethics@glasgow.ac.uk

Supervisors: Dr Muir Houston
Dr Kristinn Hermannsson
Researcher: Aidos Myrzabek

I confirm that I have read all above and consent to take part in the survey ☐

Block 1. The general picture of participants.

1. Consent	
2.2 What is your age? (Age)	
2.3 Please select your gender (Gender)	M/F
2.4 Foreign university you have graduated from? (Foreign_Uni)	
2.5 The country name where you obtained your degree certificate? (Country_of_Study)	Name:
2.6 What year did you obtain your foreign degree certificate? (Year_Graduated)	Year
2.7 Who financed your study abroad? (Source_of_Finance)	Myself - 1 The university I worked/studied at - 2 Kazakh government - 3 Foreign grant -4 Other - 5
2.8 What is the discipline area of your degree? (Discipline_area_degree)	Name:
2.9 What is your highest qualification obtained abroad? (Tick all that apply) (Foreign_highest_qual)	Bachelor's degree Master's degree PhD degree Postdoctoral Research Fellowship Other (Please specify)
2.10 What part of studies was overseas? (Parts_of_overseas_studies)	Short-term academic mobility Double degree programme Whole study was overseas Internship
2.11 Please, choose the region where you are currently located in Kazakhstan. (Current_region)	Nur-Sultan Almaty Shymkent Other (Please specify)
2.12 What is your current employment status? (Current_employment_status)	Employed, part-time Employed, full-time Employed maternal/paternal leave Unemployed, looking for a job Self-employed Retired Other
2.13 If employed, what is your current job title? (Current_job_title)	(*Please be specific*) _____
2.14 What sector are you currently employed in? (Employed_sector)	Public sector Private sector Other (*Please specify*) _____
2.15 Are you employed in higher education? (Employed_in_higher_education)	Yes No

2.16 If yes, what describes best the university you work at? (Uni_description) If no go to **2.17**	Pedagogical university Research Centre Technical university Medical university Law school Business school Other (Please specify)
2.17 Have you changed your career after obtaining your degree? (Career_change_after)	Yes No
2.18 If Yes, please specify why you changed your career (Reason_for_change)	_____
2.19 If yes, what is your new job title (New_job_title)	Please specify _____

Block 3 Previous studies

3.20 What made you decide to study abroad? *(Please tick all that apply)* (Study_motivation_1)	Tick
Better knowledge in foreign higher institutions	
To emigrate in the future to the country I studied	
Better career opportunities after returning to Kazakhstan	
Better career opportunities abroad	
Cultural experience	
Kazakh higher institutions did not have the discipline I preferred	
I just wanted an international degree	
My family wanted me to study abroad	
Foreign PhD degree is highly valued in Kazakhstan than the local one	
Too high competition to apply for PhD in Kazakhstan	
I got a scholarship from a foreign university	
I got a scholarship from the Kazakh government	
I wanted to improve my foreign language competence	
It is highly valued on my resume	
Because it is popular these days	
High level of bribery to get accepted to PhD in Kazakhstan	
Other (please specify)	
3.21 Who influenced you to decide to study abroad? *(Please tick all that apply)* (Influencers)	Tick
Parents	
Peers	
Myself	
Teachers	
Colleagues	
Foreign friend(s)	
Partner	

Other (*please specify*)	
3.22 Did any of the following factors affect your decision to attend the university you studied at? (*Please tick all that apply*) (Study_motivation_2)	Tick
Its ranking	
Teaching quality at the university	
Student reviews on the university webpage	
It provided the exact speciality I wanted to study	
Memorandum between the foreign and Kazakh universities	
Grant provided by the host university	
They offered job opportunities after graduation	
They provided support to emigrate afterwards	
Other (*please specify as much as you want*)	
3.23 Did you want to return to Kazakhstan after graduation? (Wish_to_return)	Yes / No
2.24 What made you return to Kazakhstan? (*Please choose all that apply to you*) (Return_reason)	Contract with the government National pride Family commitments I wanted to apply my knowledge in Kazakhstan It was my moral obligation Other (please specify)
3.25 If you wanted to stay abroad after graduation, please, specify why? (Tick all that apply) (Pull_factor)	Job opportunities with high salary Better future for my children Better opportunities for my career progress Marriage Highly competent colleagues Better working environment Other
3.26 If you wanted to emigrate, where would you like to live? (Attractive_countries)	Country _____
3.27 The reason for that choice (*Please specify*) (Why_attractive)	_____
	Work at a regional university in Kazakhstan

3.28 What is your plan for the future regarding your career? (Future_plan)	Work in the major cities in Kazakhstan Work abroad Work at the previous place Change my career Apply for post-doc in Kazakhstan Apply for post-doc abroad Other (*Please specify*)

Block 4 INTERNATIONALISATION OF HIGHER EDUCATION (IHE) IN KAZAKHSTAN

4.29 You opinion about the general concept of internationalisation of higher education in Kazakhstan

	Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly Disagree
Likert Scale scores	5	4	3	2	1
The internationalisation of higher education facilitates the socio-economic development of Kazakhstan (IHE_SE_development)					
The internationalisation of higher education enhances teaching quality at higher institutions in Kazakhstan (IHE_TQ_enhancement)					
Internationalisation of higher education increases the standards of higher institutions (IHE_increases_SHE)					
Internationalisation of higher education decreases the dependence of higher institutions on government funding (IHE_decreases_DHE_on_Gov)					
Teaching only in English at higher institutions decreases the status of the Kazakh language among young adults (IHE_Kazakh_language_status)					
Internationalisation of higher education leads to cultural diversity (IHE_leads_CD)					

Studying abroad lowers the chance of Kazakh citizens to return (SA_lowers_return_rate)					
Studying abroad is an important step towards brain gain (SA_important_Brain_Gain)					
Long-term external academic mobility is an important step towards brain circulation (SA_important_Brain_Circulation)					

Block 5 AFTER RETURNING TO Kazakhstan

5.30 Experience after returning to Kazakhstan (Please tick all that apply to you) (Experience_after_Return)

I felt unwelcomed at my workplace	
I began engaging actively in policy in Kazakhstan	
I engaged in the process of internationalising higher institution	
My foreign PhD degree benefited me in terms of career progression	
I am not interested in working at higher institutions in Kazakhstan due to my low salary	
I earn more than the local PhD graduates	
I have minimal time to write scientific papers because of overload work at my job	
Doing a PhD abroad enabled me to do research independently	
My workplace provides enough opportunities for PhD holders to develop professionally in their field	
I have advised policymakers on at least one case	
I gave talks in media	
I prefer to work in less advantageous institutions in regions	
I still have collaboration in research with scholars abroad	
I discontinued my career in higher education due to a lack of promotion	
I published scientific articles in Q1 - Q4 journals	
I expected to do more research in my field rather than more teaching	
Other *(please specify)*	

5.31 Here you can share any experience (your impact on Kazakhstan, challenges, and benefits, and others) you have had after your study abroad

Is there anything else you would like to share with us regarding your study abroad? (Please write as much and as detailed as you can) (Sharing_any_Experience)
_____

5.32 You can leave your contact details if you like to participate in the follow-up interview, and the researcher will contact you at your convenience. Thank you. (Contact_details)

Email:

Appendix 7 Questionnaire (Version 2)

Questionnaire

As part of the project that focuses on the internationalisation of higher education in Kazakhstan, the survey targets graduates who obtained their degrees abroad. Specifically, their experiences and aspirations. The questionnaire will take 10-12 minutes to complete.

You can withdraw from participating in the survey at any time if decided so. However, only the researcher and supervisors can access the data collected from the survey regarding the respondent's anonymity. All the data will be kept anonymous and confidential, and participants will not be identified. So, there is not any risk for participant's confidentiality. Also, by completing this questionnaire, you can help improve the internationalisation of higher education in Kazakhstan.

This research project has been considered and approved by the College Research Ethics Committee of the University of Glasgow.

If you require any further information about the study, you may contact either the researcher or his supervisors using the details above.

To pursue any complaint about the conduct of the research: contact the College of Social Sciences Ethics Office, email: socsci-ethics@glasgow.ac.uk

Supervisors: Dr Muir Houston
Dr Kristinn Hermannsson
Researcher: Aidos Myrzabek

I confirm that I have read all above and consent to take part in the survey ☐

Block 1. The general picture of participants.

1. Consent	
2.2 What is your age? (Age)	
2.3 Please select your gender (Gender)	M/F
2.4 Foreign university you have graduated from? (Foreign_Uni)	
2.5 The country name where you obtained your degree certificate? (Country_of_Study)	Name:
2.6 What year did you obtain your foreign degree certificate? (Year_Graduated)	Year
2.7 Who financed your study abroad? (Source_of_Finance)	Myself - 1 The university I worked/studied at - 2 Kazakh government - 3 Foreign grant -4 Other - 5
2.8 What is the discipline area of your degree? (Discipline_area_degree)	Name:
2.9 What is your highest qualification obtained abroad? (Tick all that apply) (Foreign_highest_qual)	Bachelor's degree Master's degree PhD degree Postdoctoral Research Fellowship Other (Please specify)
2.10 What part of studies was overseas? (Parts_of_overseas_studies)	Short-term academic mobility Double degree programme Whole study was overseas Internship
2.11 Please, choose the region where you are currently located in Kazakhstan. (Current_region)	Nur-Sultan Almaty Shymkent Other (Please specify)
2.12 What is your current employment status? (Current_employment_status)	Employed, part-time Employed, full-time Employed maternal/paternal leave Unemployed, looking for a job Self-employed Retired Other
2.13 If employed, what is your current job title? (Current_job_title)	(*Please be specific*) _____
2.14 What sector are you currently employed in? (Employed_sector)	Public sector Private sector Other (*Please specify*) _____
2.15 Are you employed in higher education? (Employed_in_higher_education)	Yes No

2.16 If yes, what describes best the university you work at? (Uni_description) If no go to **2.17**	Pedagogical university Research Centre Technical university Medical university Law school Business school Other (Please specify)
2.17 Have you changed your career after obtaining your degree? (Career_change_after)	Yes No
2.18 If Yes, please specify why you changed your career (Reason_for_change)	_____
2.19 If yes, what is your new job title (New_job_title)	Please specify _____

Block 3 Previous studies

3.20 What made you decide to study abroad? *(Please tick all that apply)* (Study_motivation_1)	Tick
Better knowledge in foreign higher institutions	
To emigrate in the future to the country I studied	
Better career opportunities after returning to Kazakhstan	
Better career opportunities abroad	
Cultural experience	
Kazakh higher institutions did not have the discipline I preferred	
I just wanted an international degree	
My family wanted me to study abroad	
Foreign degree is highly valued in Kazakhstan than the local one	
Too high competition to get accepted to universities in Kazakhstan	
I got a scholarship from a foreign university	
I got a scholarship from the Kazakh government	
I wanted to improve my foreign language competence	
It is highly valued on my resume	
Because it is popular these days	
High level of bribery to get accepted to universities in Kazakhstan	
Other (please specify)	
3.21 Who influenced you to decide to study abroad? *(Please tick all that apply)* (Influencers)	Tick
Parents	
Peers	
Myself	
Teachers	
Colleagues	
Foreign friend(s)	
Partner	

Other (*please specify*)	
3.22 Did any of the following factors affect your decision to attend the university you studied at? (*Please tick all that apply*) (Study_motivation_2)	Tick
Its ranking	
Teaching quality at the university	
Student reviews on the university webpage	
It provided the exact speciality I wanted to study	
Memorandum between the foreign and Kazakh universities	
Grant provided by the host university	
They offered job opportunities after graduation	
They provided support to emigrate afterwards	
Other (*please specify as much as you want*)	
3.23 Did you want to return to Kazakhstan after graduation? (Wish_to_return)	Yes / No
2.24 What made you return to Kazakhstan? (*Please choose all that apply to you*) (Return_reason)	Contract with the government National pride Family commitments I wanted to apply my knowledge in Kazakhstan It was my moral obligation Other (please specify)
3.25 If you wanted to stay abroad after graduation, please, specify why? (Tick all that apply) (Pull_factor)	Job opportunities with high salary Better future for my children Better opportunities for my career progress Marriage Highly competent colleagues Better working environment Other
3.26 If you wanted to emigrate, where would you like to live? (Attractive_countries)	Country _____
3.27 The reason for that choice (*Please specify*) (Why_attractive)	_____
	Work at a regional university in Kazakhstan

3.28 What is your plan for the future regarding your career? (Future_plan)	Work in the major cities in Kazakhstan Work abroad Work at the previous place Change my career Apply for post-doc in Kazakhstan Apply for post-doc abroad Other (*Please specify*)

Block 4 INTERNATIONALISATION OF HIGHER EDUCATION (IHE) IN KAZAKHSTAN

4.29 You opinion about the general concept of internationalisation of higher education in Kazakhstan

	Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly Disagree
Likert Scale scores	5	4	3	2	1
The internationalisation of higher education facilitates the socio-economic development of Kazakhstan (IHE_SE_development)					
The internationalisation of higher education enhances teaching quality at higher institutions in Kazakhstan (IHE_TQ_enhancement)					
Internationalisation of higher education increases the standards of higher institutions (IHE_increases_SHE)					
Internationalisation of higher education decreases the dependence of higher institutions on government funding (IHE_decreases_DHE_on_Gov)					
Teaching only in English at higher institutions decreases the status of the Kazakh language among young adults (IHE_Kazakh_language_status)					
Internationalisation of higher education leads to cultural diversity (IHE_leads_CD)					

Studying abroad lowers the chance of Kazakh citizens to return (SA_lowers_return_rate)					
Studying abroad is an important step towards brain gain (SA_important_Brain_Gain)					
Long-term external academic mobility is an important step towards brain circulation (SA_important_Brain_Circulation)					

Block 5 AFTER RETURNING TO Kazakhstan

5.30 Experience after returning to Kazakhstan (Please tick all that apply to you) (Experience_after_Return)

I felt unwelcomed at my workplace	
I began engaging actively in policy in Kazakhstan	
I engaged in the process of internationalising higher institution	
My foreign degree benefited me in terms of career progression	
I am not interested in working at higher institutions in Kazakhstan due to my low salary	
I have been privileged within the university more than the local academic staff in terms of research skills	
I have minimal time to write scientific papers because of overload work at my job	
Studying abroad enabled me to do research independently	
My workplace provides enough opportunities for staff to develop professionally	
I have advised policymakers on at least one case	
I gave educative interviews in media	
I prefer to work in less advantageous institutions in regions	
I still collaborate with scholars abroad in my field	
I discontinued my career in higher education due to a lack of promotion	
I published scientific articles in Q1 - Q4 journals	
I expected to do more research in my field rather than more teaching	
Other *(please specify)*	

5.31 Here you can share any experience (your impact on Kazakhstan, challenges, and benefits, and others) you have had after your study abroad

(Sharing_any_Experience)
_____

5.32 You can leave your contact details (email, phone, WhatsApp) if you like to participate in the follow-up interview, and the researcher will contact you at your convenience. Thank you. (Contact_details)

Email:

Appendix 8 Interview Questions with University Managers, Returned PhD Graduates, and Intellectual Emigrants

Questions for **Semi-Structured Interview with High-Level Administrations in Higher Education**

Current Condition of Internationalisation

1 How long have you been on this position?
Бұл қызметте қанша уақыт болдыңыз?
Как долго вы работаете в данной отрасли?

2 What is your opinion on the current process of internationalisation of higher education at your university?
Университетіңіздегі халықаралықтандыру процесіне деген көзқарасыңыз қалай?
Как вы относитесь к процессу интернационализации в вашем университете?

3 What benefits or challenges can you name for internationalisation of higher education?
Университетіңіздегі халықаралықтандыруға қатысты қандай жетістіктер мен кедергілер/қиыншалықтарды атай аласыз?
Какие достижения и препятствия/трудности вы бы отметили в процессе интернационализации в вашем университете?

4 What course of actions have you been taking to overcome the challenges/improve the quality of internationalisation of higher education?
Халықаралықтандыру сапасын арттыру үшін не кедергілерден өту үшін қандай шаралар атқарылып жатыр?
Какие меры предпринимаются для повышения качества интернационализации или же преодоления препятствий?

5 What sorts of actions have you taken to circulate knowledge between your university and western universities?
Дамыған мемлекеттердің университеттерімен білім алмасу жолында қандай жұмыстар атқарылып жатыр?
Какие работы проводятся по обмену знаниями с университетами развитых государств?

6 How many PhD graduates with foreign degrees do you have at your institution?
Университетіңізде шетелдік ЖОО-ын тамамдаған PhD иегерлері бар ма?
Есть ли в вашем университете обладатели PhD, окончившие зарубежные вузы?

7 How satisfied are you with their impact on internationalisation at your institution?
Олардың тигізген пайдасы қандай? Олардың университетіңізге тигізген пайдасына көңіліңіз тола ма?
Какова их польза? Довольны ли вы их пользой для вашего университета?

8 What is the five-year plan of your institution regarding internationalisation?
Халықаралықтандыруға қатысты алдағы бес жылдық жоспарларыңыз қандай?
Каковы ваши планы по интернационализации на ближайшие пять лет?

9 What international projects can you name that your institution involved in?
Халықаралықтандыруға қатысты жобаларыңызды атап берсеңіз?
Расскажите, пожалуйста, о ваших проектах по интернационализации?

10 How many foreign students are there in your institution? Where are they from?
Университетіңізде қанша шетел азаматтары білім алуда? Олар қай елден келген?
Сколько иностранных граждан обучается в вашем университете? Из каких стран они приехали?

11 How many foreign professors/lecturers are there in your institutions? Where are they from?
Университетіңізде қанша шетелдік профессор/оқытушылар бар? Олар қай елден келген?
Сколько иностранных профессоров/преподавателей в вашем университете? Из каких стран они приехали?

12 Do you want your institution to collaborate/Has your institution been collaborating in international research projects with your foreign colleagues? If Yes, could you be specific about a research area you would like to collaborate? If No, what exactly holds you back from doing research with western universities collaboratively?
Университетіңіз халықаралық ғылыми жобаларға қатысқысы келе ме/қатысып жүр ме? Қандай жобалар? Қатыспаса не кедергі болуда?
Ваш университет хочет / участвует в международных научных проектах? Какие проекты? Если нет, то что мешает не участвовать?

Ideas for Brain Circulation

13 What supports have you provided for PhD graduates with foreign degrees to promote brain circulation with top foreign universities?
Дамыған елдермен білім алмасуда университетіңізде PhD иегерлеріне қандай қолдау бар?
Какая поддержка для обладателей PhD в вашем университете в обмене знаниями с развитыми странами?

14 What academic/professional links does your institution have with foreign top universities?
Шетелдік Топ ЖОО-мен қандай ғылыми/кәсіптік байланыстарыңыз бар?
Какие у вас научные/профессиональные связи с зарубежными топовыми вузами?

15 How can knowledge circulation between Kazakh and western top universities impact the goal of Kazakhstan becoming educational hub in Central Asia?
Қазақ ЖОО-ның шетелдік Топ ЖОО-мен білім алмасуы Қазақстанның Орталық Азиядағы білім хабына айналуына қандай ықпалын тигізеді?
Каким образом обмен знаниями казахских вузов с зарубежными топовыми вузами будет способствовать тому, что Казахстан станет образовательным хабом в Центральной Азии?

16 Are you satisfied with the quality of impact of PhD graduates with foreign degrees on internationalisation of your institution? Why?
Университетіңіздің халықаралықтану деңгейіне PhD иегерлерінің тигізіп жатқан пайдасына/ықпалына көңіліңіз тола ма? Неге?
Удовлетворены ли вы влиянием / пользой обладателей PhD на уровень интернационализации университета? Почему?

Questions for **Semi-Structured Interview** with **the PhD Graduates**

Educational Background

1 What is your educational background?
Біліміңіз туралы айтсаңыз?

Расскажите о своих знаниях?

2 How long have you been teaching/doing research in your field?
Өзіңіздің салаңызда оқытып/зерттеп жүргеніңізге қанша болды?
Как долго вы изучаете свою отрасль?

3 What were the challenges and benefits of doing PhD abroad?
Шетелде PhD қорғауыңыз қаншалықты қиын болды?
Насколько сложно было защитить PhD за рубежом?

4 What connections have you had with your colleagues/scholars abroad while working in Kazakhstan after your return?
Елге оралғаннан кейін шетелдік коллегаларыңызбен/профессорлармен қандай байланысыңыз бар?
Какие у вас связи с иностранными коллегами/профессорами по возвращении в страну?

5 How important is the relationship between local and foreign scholars/scientists/engineers?
Шетелдік ғалымдармен байланыс қаншалықты маңызды?
Насколько важны связи с зарубежными учеными?

6 How do you find the condition of internationalisation of higher education in Kazakhstan?
Қазақстандағы ЖОО-ның халықаралықтану деңгейіне/сапасына пікіріңіз?
Ваше мнение об интернационализации/качестве вузов в Казахстане?

Experience of PhD Holders

7 What made you decide to study abroad?
Шетелде оқуға не түрткі болды?
Что подтолкнуло Вас учиться за границей?

8 Can you describe specific advantages for you to do PhD abroad?
Шетелдік PhD-дің сіз үшін пайдасына нақтырақ тоқталсаңыз?
Расскажите подробнее о пользе зарубежного PhD для вас?

9 What obstacles/advantages have you had in your career/personal life after your return to Kazakhstan?
Елге оралғаннан кейін қызметіңізде/жеке өміріңізде кездескен кедергілер/артықшылықтары қандай?
Каковы препятствия/преимущества, с которыми вы столкнулись в своей службе/личной жизни после возвращения на родину?

10 What impact do you think you have already had on the improvement of higher education quality in Kazakhstan within five years of work experience?
Қазақ ЖОО-ның сапасын арттыруға бес жылдың ішінде қандай үлес қостыңыз?
Какой вклад в повышение качества казахского вуза вы внесли за пять лет?

11 What do you think is the most important step for Kazakh universities to internationalise themselves?
Қазақ ЖОО-ын халықаралықтандырудағы ең маңызды қадамдарға тоқталсаңыз?
Перечислите наиболее важные шаги в интернационализации казахских вузов?

12 How do you see your career perspective after your contract with Bolashak finishes?
Болашақпен келісім-шарт аяқталғаннан кейінгі мансабыңыз қалай болады?
Как будет ваша карьера после окончания контракта с Болашак?

13 Have you ever been offered any research project by foreign universities?
Сізге шетелдік ЖОО-нан ғылыми жобаларға қатысу ұсынылды ма?

Были ли предложения от зарубежных вузов участвовать в научных проектах?

14 What do you think of emigrated scholars/scientists/engineers' decisions to emigrate?
Кейбір ғалымдардың дамыған елге көшу туралы шешімдеріне көзқарасыңыз?
Ваш взгляд на решения некоторых ученых о переезде в развитую страну?

15 What (other than the contract with Bolashak) made you decide to return to Kazakhstan?
Қазақстанға оралуға Болашақпен келісім шарттан басқа не себеп болды?
Что стало причиной возвращения в Казахстан, кроме договора с Болашак?

16 Do you want/ have intention to collaborate in research with your colleagues abroad? If Yes, could you be specific about a research area you would like to collaborate? What reasons do you have for that? If No, what exactly holds you back from doing research with your foreign colleagues collaboratively?
Шетелдік коллегаларыңызбен/ғалым оқытушыларыңызбен бірлесіп жұмыс істеуге ниетіңіз бар ма? Болса, нақты қандай салада? Болмаса, неге? Не себеп?
У вас есть желание сотрудничать со своими зарубежными коллегами / учеными преподавателями? Если да, то в какой конкретно отрасли? Если нет, то почему? В чем причина?

Ideas for Brain Circulation

17 Do you know PhD holders with foreign degrees who professionally cooperate with foreign scientists/scholars? What do they collaborate in?
Шетелдік ғалымдармен бірлесіп жұмыс істеп жатқан шетелде бітірген PhD иегерлерін білесіз бе? Қандай салада бірлесіп жұмыс істеп жатыр?
Знаете ли вы выпускников PhD за рубежом, которые сотрудничают с зарубежными учеными? В какой сфере сотрудничают?

18 What academic/professional links do you have with your colleagues abroad?
Шетелдік коллегаларыңызбен қандай ғылыми/кәсіптік байланысыңыз бар?
Какие у вас научные / профессиональные связи с зарубежными коллегами?

19 What are your suggestions that universities do in order to attract scholars/specialists/foreign PhD degree holder?
Шетелдік ғалымдарды/мамандарды/шетелде бітірген ғалымдарды тартуда университеттер не істеуі керек деп ойлайсыз?
Как вы думаете, что должны сделать университеты, чтобы привлечь иностранных ученых/специалистов/ученых, которые закончили за рубежом?

20 What would you do to exchange knowledge (includes: writing scientific papers, delivering lectures, any start-ups) with your foreign colleagues?
Шетелдік коллегаларыңызбен білім алмасуда не істер едіңіз?
Что бы вы делали в обмене знаниями со своими зарубежными коллегами?

21 What obstacles/benefits do you see to collaborate with foreign scholars in your field?
Өз салаңызда шетелдік ғалымдармен бірлесіп жұмыс жасауда(дың) не кедергі (пайдалы тұстары)?
Что мешает (или полезные моменты) сотрудничать с зарубежными учеными в своей отрасли?

22 Which country's scholars do you collaborate with?
Қай елдің ғалымдарымен бірлесіп жұмыс жасап жатырсыз?
С учеными какой страны вы сотрудничаете?

Educational background

1 What is your educational background?
Біліміңіз қандай?
Какое у вас образование?

2 How long have you been teaching/doing research in your field?
Өз салаңыз бойынша жұмыс істеп/зерттеп жүргеніңізге қанша уақыт болды?
Как долго вы изучаете свою отрасль (работаете в данной отрасли)?

3 Have you studied/experienced short/long term external academic mobility while studying/working at the university?
Университет қабырғасында қысқа/ұзақ мерзімді академиялық мобильділік бойынша тәжірибеңіз бар ма?
Имеете ли Вы опыт работы в стенах университета по краткосрочной / долгосрочной академической мобильности?

4 What connections have you had with your colleagues abroad while studying/working in Kazakhstan?
Қазақстанда жұмыс істеу барысында шетелдік коллегаларыңызбен қандай қарым-қатынас болды?
Какие отношения сложились с вашими зарубежными коллегами за время работы в Казахстане?

5 What are the challenges and benefits of emigration for you?
Эмиграцияның сіз үшін ұтымды/қиын жақтары?
На ваш взгляд, какие существуют плюсы и минусы эмиграции?

6 How important is the relationship between local and emigrated scholars/scientists/engineers?
Жергілікті және шетелдік ғалымдардың/мамандардың өзара қарым-қатынасы қаншалықты маңызды?
Насколько важны взаимоотношения местных и зарубежных ученых/специалистов?

Push/Pull Factors for Emigration

7 What made you decide to emigrate?
Шетелге қоныс аударуға сіз үшін не себеп болды?
Что способствало вашему переезду за границу?

8 Can you describe specific advantages for you to work/live abroad?
Ұтымды тұстарына нақтырақ тоқталсаңыз?
Подробнее о полезных моментах?

9 Have you ever been offered any research project from Kazakh universities?
Сізге қазақ ЖОО-нан ғылыми жобаларға қатысуға ұсыныс түсті ме?
Вам поступали предложения от казахских вузов принять участие в научных проектах?

10 What would make you decide to return to Kazakhstan to teach at higher education/do research for a long/short time?
Қандай жағдайда Қазақстанға келіп, ЖОО-да сабақ бере аласыз/ғылыми зерттеулер жасай аласыз?
В каких случаях вы можете приехать в Казахстан и преподавать в вузе / проводить научные исследования?

11 Do you want/ have intention to collaborate in research with your colleagues in Kazakhstan? If Yes, could you be specific about a research area you would like to collaborate? If No, what exactly holds you back from doing research with your colleagues collaboratively in Kazakhstan?

Қазақстандық коллегаларыңызбен бірлесіп ғылыми жұмыс жасауға ниетіңіз бар ма? Болса, нақты қай сала бойынша? Болмаса, не кедергі?
Намерены ли вы совместно с вашими казахстанскими коллегами заниматься научной работой? Если да, то по какой именно отрасли? Если нет, то что мешает?

Ideas for Brain Circulation

12 Do you know emigrated intellectuals who professionally cooperate with scientists/scholars in Kazakhstan while living abroad? What do they collaborate in?
Қазақстандағы ғалымдармен бірлесіп жұмыс істеп жатқан қоныс аударған зиялы қауым өкілдерін білесіз бе? Олар қай салада жұмыс жасап жатыр?
Знаете ли вы представителей эмигрировавшей интеллигенции, которые сотрудничают с учеными в Казахстане? В какой сфере они работают?

13 What academic/professional links do you have with your colleagues in Kazakhstan?
Қазақстандағы коллегаларыңызбен қандай ғылыми/кәсіби байланыстарыңыз бар?
Какие у вас научные / профессиональные связи с коллегами в Казахстане?

14 What are your suggestions that universities do in order to attract scholars/specialists like you?
Сіз сияқты ғалымдарды/мамандарды тартуда Қазақ ЖОО-ы не істеу керек деп ойлайсыз?
Как вы думаете, что должны сделать казахские ВУЗы, чтобы привлечь таких ученых/специалистов, как вы?

15 What would you do to exchange knowledge (includes: writing scientific papers, delivering lectures, any start-ups) between your colleagues in Kazakhstan?
Қазақстандағы коллегаларыңызбен білім алмасуда не істер едіңіз?
Что бы вы сделали в обмене знаниями со своими коллегами в Казахстане?

16 What obstacles/benefits do you see to collaborate with Kazakh scholars in your field? Do you have any suggestions to overcome the obstacles? What would you suggest Kazakh scholars do to collaborate with foreign scholars?
Қазақстандағы коллегаларыңызбен бірлесіп жұмыс істеуде сіз үшін ұтымды тұстары/кедергілер? Шетелдік ғалымдармен бірлесіп жұмыс істеуде қазақ ғалымдарына кеңестеріңіз қандай?
Плюсы / минусы для вас в совместной работе со своими коллегами в Казахстане? Каковы Ваши советы казахским ученым в совместной работе с зарубежными учеными?

17 Which country's scholars do you collaborate with?
Қай елдің ғалымдарымен/мамандарымен бірлесіп жұмыс істеп жатырсыз?
С учеными/специалистами какой страны вы сотрудничаете?

Appendix 9 Research Phase, Process, and Timeline

Research phase	Procedure	Timeline
Quantitative Data Collection (quan)	• Research Ethical Amendments Application • Ethical Amendments Approval • Microsoft Forms Online Survey Generation • Survey Distribution • Survey Data Collection • Survey Data (n=123)	April 2021 - June 2021
Quantitative Data Analysis (quan)	• Data Screening (uploading the data to SPSS, detecting errors, missing values and the like) • Descriptive Statistics (Measures of central tendency, variability, distribution shape, frequencies & percentages)	June 2021 - August 2021
Qualitative Data Collection (QUAL)	• Reaching out participants • Individual semi-structured virtual interviews with three different groups of participants (UM, G, IE) • Transcribing the interviews	August 2021 - November 2021
Qualitative Data Analysis (QUAL)	• Learning NVivo • Deductive and inductive coding • Developing themes • Thematic analysis • Writing up the qualitative results section	November 2021 - January 2022
Integrating Quantitative and Qualitative Results (quan -> QUAL)	• Combining and providing explanations for the quantitative and qualitative results	February 2022 - April 2022

Appendix 10 Crosstabulation analysis of Year graduated and Current region variables.

*Year graduated * Current region*

Count

		Please, choose the region where you are currently located.		
		Chicago	Turkey	UK
What year did you obtain your foreign degree certificate?	2006	1	0	0
	2020	0	1	0
	2021	0	0	1
Total		1	1	1

Appendix 11 Crosstabulation analysis of foreign highest qualification and employment in HE variables

*Foreign_Highest_Qualification * Employed_in_HE Crosstabulation*

			Employed_in_HE		
			No	Yes	Total
Foreign_Highest_Qualification	Bachelor's degree	Count	5	0	5
		% within Employed_in_HE	7.0%	0.0%	4.5%
	Master's degree	Count	61	30	91
		% within Employed_in_HE	85.9%	75.0%	82.0%
	Internship	Count	2	1	3
		% within Employed_in_HE	2.8%	2.5%	2.7%
	PhD degree	Count	3	8	11
		% within Employed_in_HE	4.2%	20.0%	9.9%
	Fulbright research scholarship	Count	0	1	1
		% within Employed_in_HE	0.0%	2.5%	0.9%
Total		Count	71	40	111
		% within Employed_in_HE	100.0%	100.0%	100.0%

Appendix 12 Career change decisions for all participants

Carrer_Change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	93	75.6	75.6	75.6
	Yes	30	24.4	24.4	100.0
	Total	123	100.0	100.0	

Appendix 13 Career change for different groups of participants

*Foreign_Highest_Qualification * Carrer_Change Crosstabulation*

			Carrer_Change		
			No	Yes	Total
Foreign_Highest_Qualification	Bachelor's degree	Count	4	1	5
		% within Carrer_Change	4.9%	3.4%	4.5%
	Master's degree	Count	63	28	91
		% within Carrer_Change	76.8%	96.6%	82.0%
	Internship	Count	3	0	3
		% within Carrer_Change	3.7%	0.0%	2.7%
	PhD degree	Count	11	0	11
		% within Carrer_Change	13.4%	0.0%	9.9%
	Fulbright research scholarship	Count	1	0	1
		% within Carrer_Change	1.2%	0.0%	0.9%
Total		Count	82	29	111
		% within Carrer_Change	100.0%	100.0%	100.0%

Appendix 14 Returned PhD Graduates' Views on Motivation to Study Abroad

*Factors_Motivated_To_Study_Abroad * Foreign_Highest_Qualification Crosstabulation*

Count

		Foreign_Highest_Qualification	
		PhD degree	Total
Factors motivated to study abroad[a]	Better career opportunities after returning to Kazakhstan;Better knowledge in foreign higher institutions;Cultural experience ;I just wanted an international degree;	1	1
	Better career opportunities after returning to Kazakhstan;Cultural experience ;I just wanted an international degree;Foreign degree is highly valued in Kazakhstan than the local one;I got a scholarship from the Kazakh government;It is highly valued on my resume;	1	1
	Better knowledge in foreign higher institutions;Better career opportunities abroad;Foreign degree is highly valued in Kazakhstan than the local one;	1	1
	Better knowledge in foreign higher institutions;Better career opportunities after returning to Kazakhstan;High level of bribery to get accepted to universities in Kazakhstan;Cultural experience ;Foreign degree is highly valued in Kazakhstan than the local one;It is highly valued on my resume;	1	1
	Better knowledge in foreign higher	1	1

	institutions;I got a scholarship from a foreign university;		
	Better knowledge in foreign higher institutions;I just wanted an international degree;I got a scholarship from the Kazakh government;	1	1
	I got a scholarship from a foreign university;	1	1
	I got a scholarship from the Kazakh government;Better knowledge in foreign higher institutions;Better career opportunities after returning to Kazakhstan;Cultural experience ;To implement the experience gained abroad in my country;	1	1
	I just wanted an international degree;Better knowledge in foreign higher institutions;My parents wanted me to study abroad;Foreign degree is highly valued in Kazakhstan than the local one;It is highly valued on my resume;	1	1
	I wanted to improve my foreign language competence;	1	1
	Kazakh higher institutions did not have the discipline I preferred;Cultural experience ;I just wanted an international degree;Foreign degree is highly valued in Kazakhstan than the local one;	1	1
Total		11	11