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Recruiting the high-achieving graduates to the teaching profession. The case of Kazakhstan[**]

Summary

This article examines the attractiveness of the teaching profession in Kazakhstan. The educational reforms adopted in Kazakhstan in recent years affect various aspects of education and teacher training, at the same time they have had an impact on the atmosphere associated with education and the perception of the teaching profession. In the paper, attention is paid to the academic performance of school graduates who have chosen teaching as a profession, which can be considered as one of the main indicators of the attractiveness of this profession. The present study aims to determine the attractiveness of pedagogical specialties among school graduates against the backdrop of new state educational reforms. The analysis shows that there is a positive correlation between the average Unified National Testing (UNT) score and the average score of the high school diploma, that is, graduates with high UNT scores had good academic performance at the school. Attracting graduates with high UNT scores to teaching shows the attractiveness of this specialty. Comparative analysis reveals that teaching is one of the first choices for successful graduates. It is possible to state that the measures taken to increase the prestige of the teaching profession have positive results. The profession is chosen by applicants with fairly high UNT scores. The problem of the attractiveness of the profession should be studied both for candidates and for current teachers, so the next step in this direction should be to study the attractiveness of the profession among current teachers who enter the profession and stay in it.

Keywords: teaching profession, profession choice, Unified National Testing (UNT), average grade of diploma, attractiveness of teaching, reforms of education in Kazakhstan

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Introduction

One of the important driving forces of education is the quality (Ferguson, 1991) and qualifications (Lee & Lee, 2020) of teachers. Student achievements and grades are taken as a general measurement tool for teacher qualification and quality (Antony & Elangkumaran, 2020; Zuzovsky, 2009). The difference in the level of education between the students of an effective teacher and a low-performing teacher can vary up to one school year (Hanushek, 1992; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). Students who are taught by a competent teacher are not only likely to do well in school, but are more likely to get a better job and have high income later in life (Chetty, Friedman, & Rockoff, 2014). Finally, a competent teacher is one of the factors that directly contribute to the welfare and development of a state (Zuzovsky & Donitsa-Schmidt, 2014). For these reasons, the involvement of the best graduates in the teaching profession and their retention in the profession for many years is a key priority of strategic development for any country (Guerriero, 2017).

Alatalo, Hansson and Johansson (2021) state that the Swedish Higher Education Authority estimates that students who are admitted to the teaching profession in Sweden have lower grades than those who enroll in other professions. Between 1996 and 2016, the grade point average of those who chose to work as a teacher in Sweden decreased significantly, leading to a decline in the quality of teachers in general. Even after a few years, the gap between the qualifications of teachers with low and high average grades will continue to widen (Alatalo et al., 2021). According to the Minister of Education and Science of the Republic of Kazakhstan, it can be assumed that a similar situation exists in Kazakhstan (Akhmetbekov, 2020). The reason for the low level of competence of novice teachers is not only the quality of the educational process in universities, but also the low attractiveness of the profession itself. But in recent years the educational reforms and other motivational programs brought a lot of positive changes in the attractiveness of teaching professions (Kazinform, 2020). Various state programs on a national scale (increase of passing score and amount of stipend) are being developed in this direction, but the adequacy and rationality of the measures taken are not subject to any measures, therefore this attempt to measure the attractiveness of pedagogical specialties among graduates can display the actual status of teachers among the younger generation.

Research has shown that attracting academically gifted students to teaching is a priority in educational development for many countries (Park & Byun, 2015), but successfully attracting students with higher grades is different for each country, for example in Germany, Poland and Switzerland, graduates with average or below average academic performance become teachers (Tatto et al., 2012).

Incentive programs offered vary based on many different factors, and the results of interventions also vary (Park & Byun, 2015).

The main aim of this paper is to determine the attractiveness of pedagogical specialties among school graduates against the backdrop of new state educational reforms being developed aimed at increasing the attractiveness of teaching. Joanna Madalińska-Michalak (2021) identified two factors that are directly connected with the attractiveness of the teaching profession, both for graduates and for existing teachers. The first one is connected with attracting candidates with relevant knowledge and skills to this profession that would be in demand in other professions. And the second factor is the retention of highly qualified and talented staff in this profession.

This paper focuses on the level of attractiveness of teaching profession in comparison with the other jobs. For a more in-depth analysis, another question was posed: "Which specialisations are chosen by graduates with higher average grades?" Graduates' average grades were used as a tool to measure the level of attractiveness.

The analysis showed a positive relationship between the average grades of the diploma and the UNT scores, thus it can be assumed that graduates with high grades at school score higher on the UNT. That is, if students with high UNT scores choose pedagogical specialties, graduates with high grades at school come to these areas. Alatalo and others (2021) have shown that the qualification gap between low-grade and high-grade applicants for teaching increases with each successive year of teaching. The attraction of graduates with high academic performance confirms the high attractiveness of teaching professions (Goss, Sonnemann, & Nolan, 2019), as well as high performance in terms of educational attainment (Tatto et. al., 2012).

Theoretical framework

Motivation of school graduates to choose teaching as a life profession is motivated by the following reasons: altruistic-intrinsic, extrinsic and influences of others (Balyer & Ozcan, 2014) as well as roles, responsibilities and opportunities (Onyefulu, Madalińska-Michalak, & Bavli, 2022). According to Noor and others, when choosing the profession of a teacher, external motives, such as wages and the social status of the profession, play a special role (Noor, Akram, & Kamran, 2021; Yuce, Sahin, Kocer, & Kana, 2013). Making their career choice under the influence of others means choosing the profession as a result of their peers, teachers, relatives and parents' effect (Kniveton, 2004; Ubuz, & Sarı, 2008). The altruistic-intrinsic motives are the basis for teachers to educate the younger generation and

contribute to their lives. Although the first career plan for most teachers under the age of 34 in Kazakhstan is teaching, a quarter of young teachers say they want to leave the profession in the next five years (Irsaliyev et al., 2019). However, even if school graduates choose to become teachers, their academic performance will have an important place in their future careers to become effective teachers.

Based on the results of the PISA-2015 survey, it can be said that the teaching profession is less attractive among 15-year-old children. Only 5.4% of them want to connect their lives with teaching (OECD, 2018). According to the international study PISA-2015, in addition to the unattractiveness of the teaching profession, the academic performance of 5.4% of students who choose to teach is significantly lower (Irsaliyev et al., 2019). Students who chose teaching got 25, 24, 26 points less in mathematics, reading literacy and science scores, respectively, than those who chose other professions. Researchers estimate that the difference of about 30 points differs an academic year. In other words, children who want to become teachers are about a year behind their peers in terms of academic performance (OECD, 2018). Berliner (2001) argues that talent or basic knowledge at the entrance is one of the prerequisites for a teacher to become socially defined in the future and to become an expert teacher.

Teaching profession in Kazakhstan

According to the Bureau of National Statistics (2021a), since 2000, the population of Kazakhstan has been growing. Along with the increase in the population, the number of teachers in schools is increasing every year. In 2000, the number of teachers was 276,343; in the next 21 years, the number of teachers in general has been growing. And in the 2021/22 academic year, 369,696 teachers worked in schools (Figure 1). In individual years, for various reasons, even if there was no increase, in general, over this period, the number of teachers increased by a third (34%).

The reforms in education carried out after gaining independence are aimed at raising the level of education in general, and especially the teaching staff is considered as a subject of study. The law adopted in 2019 on the "Status of a teacher" emphasises the importance of teachers (Laws of the Republic of Kazakhstan, 2019). A special law protecting the rights and dignity of teachers is also designed to enhance the prestige of the profession; it focuses on the basic duties of teachers.

Due to the lack of teachers in Kazakhstan in the current times and, as it is seen, in the future, the issue of attracting and retaining teachers in the profession is critical. Although teachers as a professional collective are the largest, due to the outflow of personnel, various measures are being taken to close this gap.

Every year the number of grants for pedagogical specialties increases (Bureau of National Statistics, 2021), but at the same time, the requirements for candidates also increase.

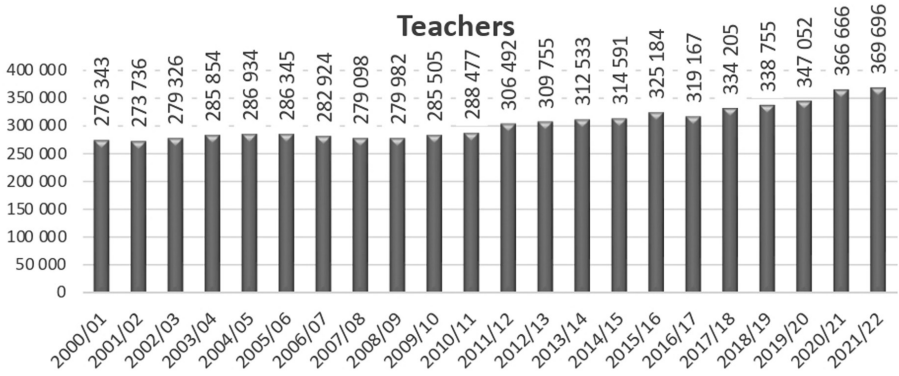

Figure 1. Number of teachers in Kazakhstan from 2000 to 2021

Source: Bureau of National Statistics (2021a, pp. 96–97)

Initial teacher education in Kazakhstan

According to the Bureau of National Statistics, each year, all universities collectively accept more than 40,000 students for teaching professions. In 2020, the total number of students who started higher education in all professions overall decreased for more than 10,000 in comparison with 2019. There were 45,384 students enrolled as teachers in 2020, which is 30% of the total number of all applicants in that year (Figure 2).

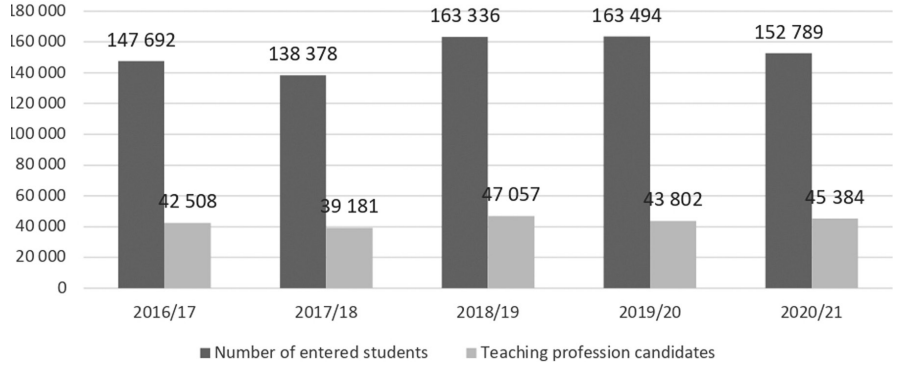

Figure 2. The total number of students who entered universities and the number of teaching profession candidates

Source: Bureau of National Statistics (2021b, pp. 147–166)

The topic of initial education of teachers is very broad. Therefore, only the requirements for admission to pedagogical specialties and motivational programs for the choice of teaching are considered, which are related to the research topic. The following sections describe the entry conditions into the teaching profession for school graduates. Apart from other state programs to increase the attractiveness of the teaching profession among current teachers and candidates for the profession, here will be indicated only a few that relate to the research topic. Several points aimed at recruiting the best school graduates will be touched upon.

Increase of passing score

Many education experts unanimously agree that the quality of graduates with high performance, as high school diploma grade and university exam, at the entrance to the specialty will directly affect the quality of education in the future (Alatalo et al., 2021; Guerriero, 2017). In Kazakhstan a number of specific steps have been taken to solve the problem of low attractiveness of teaching profession. One of the solution is connected with raising the passing score for entering universities. In 2018, the approved passing score for admission to pedagogical specialties was 50 points, in subsequent years this score has increased annually to 60 points in 2019, and in 2020 to 70 points out of a possible maximum of 140 points. Graduates with less than 50% of average grade have been not allowed to enter teaching (Table 1). In 2021, despite the decrease in the average UNT score among the country, the passing score for graduates to enter the pedagogical specialties increased again and was set at 75 points.

Table 1. Changes in the passing scores of pedagogical and other specialties

Years	Passing score for any specialty*	Passing score for pedagogical specialties
Until 2018	50	50
2019	50	60
2020	50	70
2021	50	75

Source: own elaboration

* Except the specialties of health care from 2020.

Increase of the amount of stipend

Starting from 2020, the amount of stipend received by students of pedagogical specialties is increasing. While the state increased the amount of scholarships from 26,000 to 31,423 for all educational programs, future teachers received 42,000 monthly. The continued increase in the scholarship in 2021 has resulted in an impressive amount of 50,400 tenge per month. Only students of pedagogical faculties and health care have such an opportunity (Resolution of the Government of the Republic of Kazakhstan, 2008).

The measures taken to some extent serve as a solution to increase the attractiveness of the profession, but no study has been conducted that would show the real results of attracting candidates with high academic performance in teaching specialties. Since the available data are the average grade of the certificate and the results of the UNT received for the grant, a statistical and correlation analysis of these indicators was carried out.

Special pedagogical test

In addition to passing an increased passing score, candidates must pass a special pedagogical test, which takes place within the walls of pedagogical universities before submitting documents for a grant competition (Order of the Minister, 2018). The purpose of the special exam is to determine the personal qualities and communicative competence of the applicant, his motivation and readiness for conscious pedagogical activity.

When solving the pedagogical situation, the applicant is offered a fact, a life situation that requires a pedagogical approach. When evaluating the results, the constructiveness and validity of the proposed method for resolving the current situation are taken into account; the ability to quickly orient in the situation and the reasons for its occurrence; the ability to anticipate the impact. A special exam is evaluated in the form of "admitted" or "non-admitted".

Qualifying exam for young teachers

It will not be enough for future teachers to show good academic results at school, in addition, teacher candidates must do well at the university. University graduates, upon receiving a teacher's diploma, must pass a qualifying exam, thereby proving their knowledge and skills necessary to work in educational institutions. The national qualification testing consists of two blocks, a total of 100 test tasks:

the first block, "Content of the subject" consists of 70 tasks, the second block, "Pedagogy, teaching methods" consists of 30 tasks. At first glance, this exam looks like a qualifying exam that will decide whether candidates are allowed to teach or not. But on the other hand, young teachers have a chance to show their high qualifications and start teaching immediately from the higher categories (NTC, 2021).

Unified National Testing (UNT)

The Unified National Testing was first launched in Kazakhstan in 1999 with a maximum score of 120 and was conducted to distribute grants from the Republic of Kazakhstan Higher Education Institutions (HEIs) to school graduates. Since then, many changes and innovations have been made in the format, questions and assessments, and 2022 will be held in a changed format for applicants. From 2019, Literacy, Mathematical Literacy and History of Kazakhstan will form the 1st block and the chosen disciplines corresponding to the specialty will be included in the 2nd block (see Table 2). For the last 4 years after the switching to this format, the winners of the state grant will be awarded by a competitive system based on the sum of the scores of these two blocks.

Table 2. Schedule of UNT assessment in 2022

Blocks	Subject name	Maximum points
Block 1	Reading literacy	20
	Mathematical literacy	15
	History of Kazakhstan	15
Block 2	1st profile subject	45
	2nd profile subject	45
Total		**140**

Source: National Testing Center (2021)

Methodology

In this study the results of grants for 2019 and 2020* years are used from the website of the National Testing Center (http://www.testcenter.kz/ru/) which is open source. Due to the lack of data on open resources for 2021 year, the analysis was conducted for two years (2019 and 2020). In order to understand which of the available parameters correlate with the results of the UNT, as well as whether the

average grade of the diploma affects the results of the UNT, there were conducted various types of statistical analyses, including regression analysis.

At the time of this research, results for 2019 and 2020 were available, so the analysis was limited to the available data. Designated data was exported to the IBM SPSS Statistics program. For further statistical processing, the data were adapted by coding, except for the UNT scores and the average grade of the diploma – these two variables are scale measures, respectively, were left unchanged.

The data were analysed using frequency, correlation, regression analyses, and also arithmetic means were compared in the context of the 10 categories (table 3). After the regression analysis showed the relationship between the UNT scores and the average grade of the diploma, the priority choice of the applicants with relatively high UNT scores was revealed. The ranking of educational programs of pedagogical and other areas was carried out.

Sample

In general, the UNT results database consists of the applicant's data, such as: last name, first name, patronymic, individual testing code (ICT), UNT scores, average grade of the diploma, admitted university and specialty. In 2019 and 2020, more than 120,000 graduates entered the UNT each year in Kazakhstan, but 22979 and 26572 of them, respectively, were analysed with the results of the competition. There are several reasons for choosing fewer applicants. In 2019, more than 54,000 grants were distributed in 78 specialties, and in 2020, more than 56,000 grants were distributed among graduates through a competitive system. It should be noted that individual quotas and other state special programs were excluded from the analysis, as they do not show a real picture of the distribution of grants on a competitive basis. For example, in 2019, in the specialty "B003 – Pedagogy and Methods of Primary Education", on the basis of a general competition, grants were allocated to applicants who scored at least 111 in the general competition and 108 in the rural quota, while according to the pedagogical quota of the Arkalyk State Pedagogical Institute, candidate could apply for a grant by scoring 69 and 60 points, respectively. In 2020, in the specialty "B001 – Pedagogy and Psychology", the minimum score for a grant in the general competition and the rural quota was 97 and 91 points. However, one could enter the East Kazakhstan University on a special pedagogical quota with 74 points, and in order to receive a state grant on a rural quota, one had to score a minimum passing score (70 points). The analysis did not take into account the pedagogical quotas mentioned above and other special programs, such as Serpin, which are also considered when distributing grants,

but according to a different system (Informburo, 2018). According to the project "Young people of the eternal country – to the industry", several thousand educational grants are allocated every year without a general competition, in order to attract young people to the industrial regions of the country (Order of the Minister of Education and Science, 2018).

All 78 specialties are divided into 15 different categories, but 10 of which are shown in the table 3 will be used in analysis. In other categories, the results of creative specialties, such as directing, acting and national musical instruments, were not taken into account, since their evaluation is carried out by the selection committee at each university according to its own system (Sinzhereckyi, 2021).

Table 3. Categories analysed

1	Pedagogical sciences
2	Humanitarian sciences
3	Social sciences
4	Business, management and law
5	Natural sciences, mathematics and statistics
6	Information and communication technologies
7	Engineering, manufacturing and construction industries
8	Agriculture and bioresources
9	Health care
10	Services

Results

Frequency analysis

As the first stage of the descriptive analysis, the conducted frequency analysis showed that in our sample of 49,951 participants, programs of the engineering, manufacturing and construction industries account for a significant proportion – in our database this category is at the level of 43.7% of the total. Next in prevalence are: natural sciences, mathematics and statistics (14.3%); information and communication technologies (11.3%). Pedagogical sciences are in fourth place and account for 8.9% of the total number of educational categories. The social sciences make up a very small share, only 0.9% of the total (Table 4).

Table 4. Frequencies of categories

Categories	Frequency	Percent	Cumulative percent
Pedagogical sciences	4,468	8.9	8.9
Humanitarian sciences	1,952	3.9	12.9
Social sciences	473	0.9	13.8
Business, management and law	1,127	2.3	16.1
Natural sciences, mathematics and statistics	7,150	14.3	30.4
Information and communication technologies	5,819	11.6	42.0
Engineering, manufacturing and construction industries	21,826	43.7	85.7
Agriculture and bioresources	1,628	3.3	89.0
Health care	3,392	6.8	95.8
Services	2,116	4.2	100.0
Total	49,951	100.0	

Correlation and regression analysis

The average value of the UNT scores correlates with the average grade of the diploma: between the indicated variables there is a direct positive correlation, as evidenced by the correlation analysis, the results of which are shown in Figure 3. The presence of a correlation is evidenced by the significance, the value of which is significantly less than 0.05 ($p = 0.004$); the positive direction is indicated by the positive sign of the Pearson correlation coefficient; however, the value of the Pearson correlation coefficient, which is 0.61, indicates a moderately high correlation between these two variables ($r = 0.61$, $p < 0.01$).

In order to determine how the average grade of the diploma affects the average UNT score, regression analysis was used, namely linear regression, where the dependent variable is the average UNT score, and the independent variable is the average grade of the diploma.

The summary table for the model shows that the R-square, which shows the proportion of the variance of the dependent variable this model explains, is 0.145, so the dependent variable UNT mean score is explained by this regression analysis model about by 15%, also $F = 8481{,}863$ and df is 1. The ANOVA table demonstra-

tes that the significance is less than the value of 0.005, which indicates that it is possible to reject the null hypothesis and accept the alternative hypothesis about the influence of the independent variable "Average grade of the diploma" on the dependent variable "average UNT score".

Correlations

		Average grade	Average of UNT point
Average grade	Pearson Correlation	1	,610**
	Sig. (2-tailed)		,004
	N	20	20
Average of UNT point	Pearson Correlation	,610**	1
	Sig. (2-tailed)	,004	
	N	20	20

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

Figure 3. Result of correlation analysis between two variables

The table "Coefficients" shows that the constant of the regression equation is 23.581, and an increase in the average grade of the diploma by 1 value increases the UNT score by 15.465 points.

In general, the results of the regression analysis allow us to conclude that the average grade of the diploma to a certain extent predicts the average score of UNT results – with an increase in the first, the second indicator increases, this is evidenced by statistical significance ($p<0.005$). Thus, the analysis of linear regression to a certain extent allows predicting UNT scores based on the average grade of the certificate, namely, an increase in the average grade of the certificate by 1 value increases the UNT score by 15.465 points.

Analysis of arithmetic means of UNT scores

Among the grant winners, those who scored the minimum and maximum UNT scores can be seen in the NTC reports. However, the candidates with maximum score among the grant recipients is very low and can cause a lot of deviations. Or even the analysis of the minimum score leads to errors. Also, according to the results of the frequency analysis (Table 4), it is clear that the number of cases is very large and therefore, when analysing the average UNT scores, relying on the

arithmetic mean is the most correct option. Therefore, the analysis was performed with an arithmetic mean, as the arithmetic mean of the grant recipients is the most plausible measure of this indicator (Table 5).

Table 5. Results of arithmetic means of UNT points by 2019 and 2020 years

	Categories	Arithmetic mean of UNT points for 2019	Arithmetic mean of UNT points for 2020
1	Pedagogical sciences	109.71	101.94
2	Humanitarian sciences	113.21	103.85
3	Social sciences	122.62	100.87
4	Business, management and law	126.16	114.44
5	Natural sciences, mathematics and statistics	98.10	82.13
6	Information and communication technologies	109.26	95.37
7	Engineering, manufacturing and construction industries	87.59	72.49
8	Agriculture and bioresources	73.82	61.46
9	Health care	126.92	109.21
10	Services	115.51	103.81
	Total	98.50	85.40

In 2020, the UNT score for the grant in selected categories decreased by 13.1 points. This decrease can be explained by the transition to an online learning format in the last quarter of the same academic year (Minister of Education and Science, 2020) and tighter control during the Unified National Testing (NTC, 2021). That is, we see that the score for admission to the grant has decreased for all graduates. However, in general, the average for all categories decreased, and the direction of pedagogical and human sciences decreased relatively slightly. The direction of pedagogical sciences decreased by only 7.77 points, and the decrease in the average score in the humanities is 9.36, while the direction of social sciences regressed by 21.75 points (Figure 4).

Based on the results of two years, it can be seen that in 2020, the average UNT scores decreased sharply compared to 2019. However, against the background of a sharp deterioration in results, there are positive aspects for pedagogical specialties, since the regression in this category is minimal.

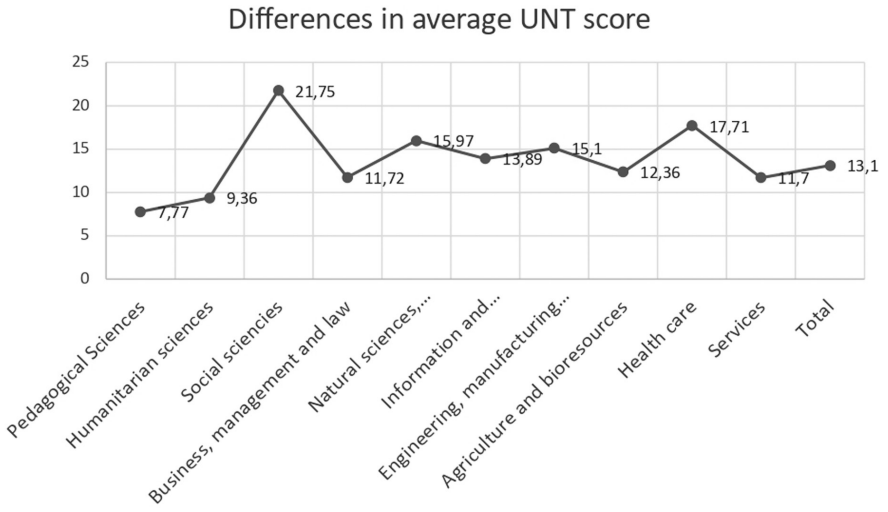

Figure 4. Differences in UNT average score between 2019 and 2020 by categories

Analysis of the arithmetic mean of an average grade of the diploma

As the second indicator of academic performance, we consider the average academic performance of students in the last school year. It is analysed how attractive the teaching profession is among the high-achieving graduates.

Table 6. Average grades of the diploma for 2019 and 2020 years by categories

Categories		Average grade for 2019	Average grade for 2020
1	Pedagogical sciences	4.49	4.79
2	Humanitarian sciences	4.43	4.81
3	Social sciences	4.62	4.75
4	Business, management and law	4.78	4.91
5	Natural sciences, mathematics and statistics	4.43	4.58
6	Information and communication technologies	4.55	4.56
7	Engineering, manufacturing and construction industries	4.19	4.23
8	Agriculture and bioresources	4.1	4.09
9	Health care	4.31	4.59
10	Services	4.68	4.35
	Total	4.33	4.44

Source: own elaboration

The average grade of the diploma, which is the second indicator of academic performance in this study, was calculated as the arithmetic mean of the grades of all about 50,000 graduates and analysed by category. The maximum average grade of the diploma is 5.0. The highest average grade of the diploma is observed in the category "Business, Management and Law". In the humanitarian, pedagogical sciences and health care, the increase was 0.38, 0.3 and 0.28, respectively (Table 6).

Discussion

The problem of the attractiveness of pedagogical specialties among graduates attracts a lot of attention and diligence of stakeholders. Measures taken in recent years to increase the attractiveness of teaching are beginning to reap their rewards. Based on the results of this work, it can be stated that successful graduates consciously choose teaching for their future career. Consciousness of choice follows from the results of grants, when an applicant can enter the teaching profession when he has the opportunity to enter other specialties. A high UNT score for admission to pedagogical specialties once again proves that, in comparison with the previous year, the attractiveness of the specialty is increasing among all categories.

When comparing the results of the analysis, an improvement in the input academic parameters of graduates for admission to pedagogical specialties is expressed. Analysis showed that the average value of the UNT scores correlates with the average grade of the diploma, a direct positive moderately high correlation is observed between the indicated variables. At the same time, the presented linear regression analysis demonstrated the ability to predict UNT scores based on indicator, the average grade of the diploma, namely, an increase in the average grade by 1 value increases the UNT score by 15.465 points, further study of the indicators will reveal other correlations and predictors. That is, graduates with a high average score receive higher UNT scores, thereby showing that applicants entering pedagogical specialties had higher grades in high school. Some authors work on the importance of attracting the best candidates for teaching professions. Several of them agree that attracting the best candidates at the initial stage of teacher education will result as high student academic performance in the long run (Barber & Mourshed, 2007; Ballou & Podgursky, 1995; Tatto et. al., 2012). To obtain qualified teaching staff, it is necessary to select candidates with high academic performance when entering the university (Kim & Han, 2002). This will create a kind of virtuous circle where successful applicants will be better prepared for subject knowledge upon graduation from the university and also the requirements of these teachers will be high, as a result, well-prepared students in those subjects

can be obtained (Carnoy, 2007). In accordance with the confirmations of the above authors, it can be assumed that in the case of Kazakhstan, the entrance parameters for entering the teaching profession are increasing, thereby leading to successful graduates in pedagogical specialties, which in the long term will lead to an increase in the level of students and education in general.

Dale Ballou and Michael Podgursky (1995) point out, citing a report by the Committee for Economic Development and other authors, that in the United States, weak candidates enter teaching professions and this cycle of weak "candidate-faculty-curriculum-teacher" has been going on for 20 years. According to the Minister of Education in Kazakhstan, a similar situation is observed when graduates enter pedagogical specialties on a residual basis, when those weak candidates who could not enter other specialties, they hopelessly enter teaching (Akhmetbekov, 2020). Contrary to the supposed association that weak candidates enter teaching, the results of the analysis show a rapid change for the better. Despite this situation, in recent years, candidates with high UNT scores have been entering pedagogical specialties. The comparative analysis performed shows that in 2020 the average UNT score for those enrolled in teaching was 101.94 points and this category ranks 5th among all specialties. That is, graduates who entered teaching on average scored higher than those who entered the "Social sciences", "Natural sciences, mathematics and statistics", "Information and communication technologies", "Engineering, manufacturing and construction industries" and "Agriculture and bioresources". In turn, observing the results, we can state that they consciously chose teaching, although they had the opportunity to enroll in other specialties. Thus, we can conclude that the graduates of 2020 did not choose teaching on a residual basis.

As a strategically important system, the education system depends on attracting highly qualified candidates and retaining personnel in this specialty, Guerriero (2017) believes. The strategic decisions taken by the state to increase the attractiveness of the profession are beginning to yield results. The global negative trend in the attractiveness of the teaching profession (Alatalo et al., 2021) is also observed in Kazakhstan, so it was necessary to conduct specific motivational programs, such as increasing the amount of the stipend and gradually increasing the passing score. The gradual increase in the passing score for pedagogical specialties from 50 to 75 over four years led to weeding out weak candidates, thereby increasing the average admission score. The average score for admission to other specialties, in which the passing score has not been increased, remains the same low. These results show the effectiveness of a gradual increase in the passing score, as a good result of the measures taken in relation to pedagogical specialties. In the works of some scientists, there is a claim that the input prerequisites act as a very good filter for

the admission of a candidate to teaching professions (Campos & Solano, 2017). A gradual increase in the passing score for admission increases the attractiveness of the specialty and is the first barrier for weak candidates not to apply (Table 1). In 2020, the passing score was raised to 70 points for pedagogical specialties, while the average UNT score of all applicants for a grant in the agriculture and bioresources category was 61.46 points (Table 5). Byron, Kihn and Miller (2010) have shown that if there is a high selection of teacher candidates, student academic performance also improves. For example, in Finland only the top 20% of graduates are allowed to apply for teaching, in South Korea 5% and Singapore 30%, which are world leaders in academic performance in secondary and primary education.

As Hargreaves and others (2007) have found, with the development and implementation of new government reforms to raise the prestige of the teaching profession, some gains can be made. In particular, with the increase in scholarships amount and the increase in the UNT passing score, in Kazakhstan, graduates with high academic performance choose teaching more than in previous years. Thus, among the ten educational categories analysed, pedagogical sciences ranked sixth in terms of the average UNT score among all categories of educational programs in 2019 with an average score of 109.71 and in fifth place in 2020 with 101.94 points. That is, the best graduates choose Business, management and law (114.44 points), followed by Health care (109.21) Humanitarian sciences (103.85) and Services (103.81), and the fifth most popular category is Pedagogical science with an average score of 101.94 (Table 5). If according to the average UNT scores, teaching is the fifth choice, then among graduates with a high average mark of 4.79 out of 5.0, it is the third most attractive category after Business, management and law (4.91) and Humanitarian sciences (4.81) (Table 6).

Limitations

Due to the lack of some data, some results may be generalised. Despite a written request to provide the data of each graduate from two government agencies, such as the National Testing Center and the Ministry of Education and Science, the data was not provided. We were asked to provide the average scores of each graduate with individual codes, without providing the last name and first names, in order to conduct a correlation analysis between the UNT scores and the average mark for each candidate separately. Since individual results were not achieved, an analysis was carried out on those who entered one specialty in general. Nevertheless, by analysing the available data, it was possible to obtain the expected results, which was shown in this paper.

Although this work was carried out in the 2021–2022 academic year, data analysis for only two years was also limited by the availability of grant results. Although some measures to increase the attractiveness of teaching were taken as early as 2018, data for 2018 was also not available. Conducting a long-term analysis with the results of several years would show more accurate results and a long-term picture of the attractiveness of the specialty.

Conclusion

This study was aimed at determining the attractiveness of teaching specialties among school graduates. Based on comparative, correlation and regression analyses of UNT scores and average grades of graduates, it can be concluded that the attractiveness of teaching increases with the measures taken in this regard. The results show that in 2020, teaching was among the top three scoring categories in terms of average graduation marks. The average grade of the diploma is positively correlated with the UNT score, which shows that the higher the UNT score, the higher the average grade. Thus, we can conclude that graduates who chose teaching with high UNT scores also showed good results in school. In other words, in the last analysed year, teaching was attractive among successful graduates.

Based on these conclusions, practitioners should consider a long-term study of this issue with results in 2021 and 2022. A qualitative study conducted among teacher students would show which of the measures taken influenced their choice of teaching specialties more. In this way, it will be possible to determine how effective each of the measures taken and how to further increase the attractiveness and prestige of teaching to stakeholders.

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