

**Teachers' Perceptions and Challenges of Implementing Updated Curriculum
Reform in a Secondary School in Central Kazakhstan.**

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Ethical Approval



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Dear Kanat Baikenov,

This letter now confirms that your research project entitled: "Teachers' Perceptions and Challenges of Implementing Updated Curriculum Reform in a Secondary School in Central Kazakhstan" has been approved by the Graduate School of Education Ethics Committee of Nazarbayev University.

You may proceed with contacting your preferred research site and commencing your participant recruitment strategy.

Yours sincerely

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CITI Training Certificate



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Abstract

Kazakhstani secondary education has undergone many changes in recent years. The results of Kazakhstani students in international exams showed that the old traditional teaching methods are no longer suitable for the realities of the 21st century. Therefore, an updated curriculum reform was introduced in 2016 to improve the quality of education in the country and increase the competitiveness of school graduates in the international arena. The introduction of the updated curriculum reform has brought with it many innovations and changes. These were new for teachers and could lead them to stress and overload. The purpose of this study is to explore teachers' perceptions and challenges on implementing updated curriculum reform in a secondary school in Kazakhstan.

This qualitative research used semi-structured interviews to collect data from eight participants. The study reveals the perceptions of teachers about the updated curriculum reform and challenges they faced during its introduction. Participants were recruited using maximum variation sampling within a convenience selected site. The collected data were analyzed using open coding. The findings show that all teachers have positive attitudes towards the reform. The only thing that does not suit teachers and is challenging for them is the criteria-based assessment. It was also found that the transition process to the reform was quick and very difficult for teachers during the first year.

Keywords: updated curriculum, curriculum reform, teachers' perceptions, challenges.

Аннотация

Казахстанское среднее образование претерпело множество изменений в последние годы. Результаты казахстанских школьников на международных экзаменах показали, что старые традиционные методы обучения больше не подходят для преподавания в XXI веке. Для повышения качества образования в стране и повышения конкурентоспособности выпускников школ на международной арене в 2016 году началось внедрение обновленного содержания образования в учебную программу общего среднего образования. Реализация обновленного содержания образования принесло много инноваций и изменений. Для учителей эти изменения были новшествами и могли негативно сказаться на их эффективности. Целью данного исследования является изучение взглядов учителей по внедрению обновленного содержания образования, а также выявление проблем, которые учителя могли иметь при ее введении.

В этом качественном исследовании использовались полуструктурированные интервью для сбора данных от восьми участников. Исследование раскрывает представления учителей об обновленной реформе учебной программы и проблемах, с которыми они столкнулись при ее внедрении. Участники были набраны с использованием выборки с максимальным разбросом в удобном месте. Собранные данные были проанализированы с использованием открытого кодирования. Результаты показывают, что все учителя положительно относятся к реформе. Единственное, что не устраивает учителей и бросает им вызов - это оценка на основе критериев. Также было установлено, что процесс перехода к реформе был быстрым и очень трудным для учителей в особенности течение первого года внедрения реформы.

Ключевые слова: обновленное содержание образования, реформа учебной программы, восприятие учителей, проблемы.

Аннатпа

Сонғы жылдары Қазақстанда орта білім саласында көптеген өзгерістер болды.

Қазақстандық мектеп оқушыларының халықаралық емтихандардағы нәтижелері оқытудың ескі дәстүрлі әдістері XXI ғасырда оқытуға жарамсыз болатындығын көрсетті. Еліміздегі білім беру сапасын арттыру және мектеп түлектерінің халықаралық аренада бәсекеге қабілеттілігін арттыру мақсатында 2016 жылы жалпы орта білім берудің оқу бағдарламасына жаңартылған білім мазмұнын енгізу басталды. Жаңартылған білім беру мазмұнын енгізу көптеген жаңалықтар мен өзгерістер әкелді. Мұғалімдер үшін бұл өзгерістер жаңа болды және олардың тиімділігіне теріс әсер етуі мүмкін. Бұл зерттеудің мақсаты - жаңартылған білім беру мазмұнын енгізу туралы мұғалімдердің пікірлерін зерттеу, сонымен қатар мұғалімдердің оны енгізуге байланысты проблемаларды анықтау.

Бұл сапалы зерттеу сегіз қатысуышыдан дерек жинау үшін жартылай құрылымдалған сұхбаттарды пайдаланды. Зерттеу мұғалімдердің жаңартылған оқу бағдарламасын реформалау туралы идеяларын және оны жүзеге асыруда кездескен проблемаларды ашады. Қатысуышлар таңдалған сайтқа максималды таңдау арқылы мақсатты түрде іріктеу аясында ерікті түрде таңдалынды. Жиналған мәліметтер ашық кодтауды пайдалана отырып талданды. Нәтижелері бойынша барлық мұғалімдердің реформаларға оң көзқарастарын көрсетті. Мұғалімдерге ұнамайтын және оларға кедергі келтіретін жалғыз нәрсе - критерийлерге негізделген бағалау. Сондай-ақ, реформаларға көшу процесі мұғалімдер үшін, әсіресе реформаны жүзеге асырудың бірінші жылы тез және өте қыын болғаны анықталды.

Tүйінді сөздер: жаңартылған білім мазмұны, оқу жоспарын реформалау, мұғалімнің қабылдауы, проблемалары.

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Chapter 1: Introduction

1.1. Introduction

Since independence, the educational system in Kazakhstan has undergone many changes. Each new Minister of Education has been trying to make improvements to secondary education. It should be noted that the intentions of the reformers were to improve the national education system and follow the new trends in the global sphere. Implementing reforms in education is a necessary process, as the modern world is changing very quickly. Graduates of schools must be able to learn continuously and work with diversity on a local and international level (Fullan, 2007).

One of the reforms appeared after the results of the 2009 and 2012 Programme for International and Student Assessment (PISA) exams, where it became clear that the Kazakhstani school system lags behind many countries. According to the results of PISA, in 2009, only 5% of the Kazakhstani participants in the reading literacy study could adequately use complex educational texts to navigate in everyday situations, and this was despite the fact that the average result of students in OECD countries was 28.6% (Nurgaliyeva, 2018). Moreover, according to the results of the 2012 PISA exam, Kazakhstani students showed poor results in mathematics, reading literacy, and scientific literacy (Nurgaliyeva, 2018).

In 2016, a reform was implemented in Kazakhstan's secondary education in order to introduce an updated curriculum. It was introduced within the framework of the Nation Plan "100 Concrete Steps" that was presented by the first President of Kazakhstan Nursultan Nazarbayev.

The aim of this plan is to reach the top 30 most economically competitive countries in the world (Rustem, 2015).

The reform was introduced in several steps. Firstly, in the 2016–2017 academic year, the first grade passed to the new system. Next, in the 2017–2018 academic year, the second, fifth, and seventh grades joined the reform. Later, in the 2018–2019 academic year, the third, sixth, and eighth grades passed. Lastly, in the 2019–2020 academic year, grades from first to tenth fully switched to the new system, and the final 11th grade will be transferred next year.

According to the requirements of the educational reform, the approach taken by students to obtain knowledge has changed significantly. Old traditional system was often criticized for focusing on remembering factual information. On the contrary, the new reform focuses on the development of practical and analytical skills.

1.2. Background of the Study

Kazakhstan is a very ambitious developing country that, from its very foundation, has paid great attention to education. In the 2000s, sharp economic growth made the government once again reflect on the need for educational reforms. At that time, it was clear that quality education is an indispensable criterion for further economic development of Kazakhstan. The first president of the country, Nursultan Nazarbayev, in his letters to the people repeatedly noted the importance of training competitive personnel and the importance of developing domestic education. Despite this, in the early 2000s the country lacked qualified professionals such as engineers, scientists, technologists, and efficient managers. This is despite the fact that 99% of the total population of the country were literate and studied at school. This confirmed the

inefficiency of school educational programs, since graduates of Kazakhstan schools were not in demand on the labor market (Yakovets & Dzhadrina, 2014).

In response to increasing criticism of schools, 2001 year was declared the year of education and the Ministry of Education and Science announced a comprehensive reform in secondary education. Subsequently, several more minor reforms related to education were carried out. At the same time, the main goal of the reforms was the development of human capital and the achievement of world educational standards.

In 2004, the State Program for the Development of Education for 2005-2010 was introduced. The program called for fundamental changes to improve the quality of education in the country and defined education as a national priority.

In February 2007, in his annual message to the people, which was called "New Kazakhstan in the New World", President N. Nazarbayev noted the strengthening of priorities for the further development of education in the country. He also stated that Kazakhstani citizens of our country should receive such an education that would make them in demand on the world labor market. According to him, this would be a criterion of the success of conducted educational reforms (Yakovets & Dzhadrina, 2014).

In March 2010, in order to achieve international standards in the field of education, Kazakhstan joined the Bologna Declaration and became the first Central Asian state recognized as a full member of the European educational space.

Finally, the updated curriculum reform was introduced in secondary education in 2016. It was presented after the failed results of Kazakhstani schoolchildren at international exams. In

addition, the old traditional teaching methods were often criticized, as they were no longer suitable for the realities of the 21st century. In the traditional teaching method, the emphasis was placed on obtaining a large theoretical base while ignoring the development of soft skills. However, global trends have shown that it is now more important to have certain skills, such as critical thinking, creativity, collaboration, and communication.

The updated curriculum reform has affected different aspects of the activities of teachers and students. First, the curriculum for each subject has changed. It now takes into account educational goals in each lesson, which are provided by the National Academy of Education. Secondly, new methods of conducting lessons were developed. Teachers are required to conduct a formative assessment at each lesson, using differentiated tasks that take into account the educational needs of each student. Thirdly, the assessment of students has changed. Under the new program, teachers determine student performance using criterion-based assessment.

1.3. Statement of the Problem

Teachers are the key to the successful implementation of any educational reform (Park & Sung, 2013). The knowledge, experience, and attitudes of teachers play a key role in this process because they are the ones who put these reforms into action. Therefore, it is important that teachers understand the demands and goals of the reforms being implemented (Park & Sung, 2013). Teacher expectations of the reform play a key role and may differ from the expectations of policy makers. Moreover, teachers can instinctively reject the introduction of the new reform and it is a natural reaction to the changes (Berkovich, 2011, as cited in Knecht et al., 2019). As a result, it is possible that teachers will use the old educating methods (Dello-Iacovo, 2009).

Whereas, acceptance of the reform will let teachers show positive attitudes and tend to commit action towards these changes (Roggenbrodt, 2008 as cited in Knecht et al., 2019).

Change is a complex and unpredictable process (Yan, 2014). The introduction of the updated curriculum reform has brought with it many innovations and changes. According to Guskey (2002), any changes that lead to increased teacher competencies and higher quality student learning can increase the workload on teachers. Dello-Iacovo (2009) in her study regarding the implementation education reform in China supports this by stating that various problems during the introduction of reform can lead to an increase in the workload of teachers. Therefore, it is important to uncover teachers' experiences of this transitional period of switching to the new curriculum. For example, would a two-week training course for teachers on the updated curriculum reform be long enough to equip teachers with the relevant knowledge and skills? Will teachers be able to differentiate tasks for each student according to their educational needs? Does the teacher have enough time to give constructive feedback on the formative assessment of each student? Research is required to find answers to these questions.

1.4. Purpose of the study

The purpose of this qualitative study will be to explore how teachers perceived the introduction of the updated curriculum reform in a specialized secondary school for gifted students in Central Kazakhstan.

1.5. Research questions

The research questions for this study are the following:

1. How do teachers of a specialized secondary school perceive the introduction of the updated curriculum reform?

2. What are the challenges for teachers in switching to the updated curriculum reform?

1.6. Definition of terms

Updated curriculum reform - also termed as “obnovlenka”, is a reform that was introduced in the Kazakhstani secondary education in the 2016-2017 school year. Within three years, all grades from 1 to 10 switched to the new educational reform. It has changed many aspects of teaching, such as assessment, curriculum, teaching methods, and forms of teaching.

Professional development programs - “systematic efforts to bring about change in the classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students” (Guskey, 2002, p.381).

1.7. Significance of the study

The introduction of the updated curriculum reform is a relatively new process. Its implementation began in the 2016-2017 school year in primary schools, and in just three years, almost all grades, except 11th, switched to the new system. For teachers this transition process can be difficult. Teachers are one of the key figures in this process, and their views and perceptions of the reform are crucial.

Despite the fact that several studies have been carried out regarding the implementation of this reform in different regions of Kazakhstan, it must be understood that the introduction of the

updated curriculum reform is an ongoing process and it is important to conduct evaluations at each stage of it.

This study will be of interest to the Ministry of Education and Science, as well as to all interested persons working in the field of education, especially teachers and parents of the students. All secondary schools in Kazakhstan have switched to the updated curriculum reform; therefore, they may have an interest in the results of the research.

1.8. Conclusion

In conclusion, the conduct of educational reform of secondary education in Kazakhstan is a timely and necessary step for the development of the country. It has long become clear that the old methods no longer work. In a rapidly changing world and with the development of technology, it is necessary to understand that traditional education has become obsolete. The teacher is no longer the transmitter of knowledge and information, but a manager who teaches children and guides students in the right direction. The introduction of the updated curriculum should solve many problems, ranging from content to assessment. As a result, graduates of schools trained by the new methodology will become more competitive in the global labor market and will have the skills that are required in the 21st century.

1.9. Outline of the Study

The study consists of six chapters. The first chapter provides information about the background of the study, problem statement, purpose of the study, research questions, and significance of the study. The second chapter describes the literature related to the curriculum reforms in different countries and its impact on teachers. The third chapter gives information

about the methodology that shaped this study, particularly, research design, sampling, data collection instruments, data collection procedures, data analysis methods, and ethical concerns. The fourth chapter reveals the findings of the study. The fifth chapter demonstrates the analysis of the research findings by comparing them with the literature review. Finally, the sixth chapter summarizes the results of the study addressing the research questions, describes research implications, and research limitations.

Chapter 2: Literature review

2.1. Introduction

The chapter presents a review of the literature related to the topic. It analyzes studies related to curriculum reforms, the role of teachers in implementing reforms, the impact of reforms on teachers, and other aspects that have been raised in the introduction of updated curriculum reform.

2.2. Implementation of curriculum reforms worldwide

Over the past couple of decades, many countries have attempted to carry out curriculum reforms in education (Park & Sung, 2013). Quality education has become a keyword in the world, and governments of different countries are striving to raise educational standards (Flores, 2005). For example, almost all sub-Saharan African countries somehow tried to carry out educational reforms, including those related to content and curriculum (Altinyelken, 2010). The reforms were introduced after pilot projects in some regions and began with primary and secondary grades (Dello-Iacovo, 2009). Initially, the implemented reforms in different countries were very well planned, designed, and had valuable goals. It is generally accepted that the goal and objective of education are to promote learning and help people improve their knowledge, develop skills that will later help them find a better job, earn more, and have a high standard of living (Guo et al., 2019). Expectations from reforms are such that they will improve the quality of education (Knecht, Peskova & Spurna, 2019). However, when the time comes to action, often, the results of the reforms can become disappointing and not at all those that were originally planned (Park & Sung, 2013). In addition, some reforms may have limitations. For example,

Marton (2006) determined that despite the fact that the goal of the new curriculum reform in China was to develop high-order skills, public examinations test only low-order skills. Similarly, Dello-Iacovo (2009) expresses doubts about the implementation of reforms without changing the entrance examinations to universities, which are critical for determining the future fate of a graduate.

Literature declares that most of the education reforms did not achieve expected results or were unsuccessful (Balogun & Hope-Hailey, 2004, as cited in Kin & Kareem, 2016). The reason for this is that according to some studies, those who come up with changes in educational policy do not always attach importance to how it will be implemented (Porter, 1980, as cited in Altinyelken, 2010). Cheung and Wong (2012) indicated that some of the main challenges in implementing curriculum reforms are “teachers’ heavy workloads, learning diversity in class, and teachers’ inadequate understanding of the reform” (p.50). According to Dello-Iacovo (2009), lack of funding, methodological support, and clear instructions from the local government could also hinder the successful implementation of the reform. Another point is that in some countries, particularly in Post-Soviet ones, after decades of totalitarian communism, even a 10-year period may not be enough to change people's thinking towards an educational change (Knecht et al., 2019). Finally, teachers hardly take part in organizing curriculum changes, and their opinions, sometimes, are not taken into account (Yildirim, 2015).

2.3. Role of teachers in educational reforms

Teachers are the ones who do the most work in introducing new educational reforms. Besides, teachers play an important role in teaching fundamental values to students in schools (Levent & Karsantik, 2018). The quality of the education system cannot be higher than the

quality of the teachers working in it (Ligay, 2010). Moreover, the dependence of the quality of education on the quality of teacher training is proved both by statistical data and in practice (Ligay, 2010). International studies assessing the quality of education, such as PISA, show that all high-performing educational systems are distinguished by the fact that they are attracting better quality human resources to the teaching profession. The ability to attract high performing professionals to the teaching profession is crucial for improving the quality of education (Ligay, 2010). The most successful school education systems hire teachers from one-third of the highest performing school graduates: from 5% of the best graduates in South Korea, from 10% in Finland, from 30% in Singapore and Hong Kong (Ligay, 2010).

Achieving quality education is a complex process. Educational reform can help achieve this goal. In this case, perceptions of teachers are very important because educational change depends "on what teachers do and think" (Fullan, 2007, p. 129).

2.3.1. The impact of educational reforms on teachers in different countries

Teachers around the world are subject to government intervention in school education through changes to the curriculum, national exams, and assessment to raise educational standards. This leads to a decrease in the autonomy of teachers and casts doubt on their professional and individual abilities. Moreover, teachers are required to be more accountable and effective in teaching (Day & Smethem, 2009).

Such close attention to school education can be considered as a support for teachers and schools. Still, at the same time, it can lead to negative impact on teachers, such as a decrease in

motivation, efficiency, and morale. Moreover, it is not clear whether student performance is improving (Day & Smethem, 2009).

In some countries, teachers had more survival than development, due to the annual implementation of various reforms (Day, 1997 as cited in Day & Smethem, 2009). Educational reforms aim to raise standards and prepare economically more competitive citizens. However, it is stated that during school reforms, teachers are often destabilized, violating their usual concepts and practice, which leads to an increase in their workload. Furthermore, the teacher's motivation and job satisfaction are often ignored (Day, 2002). In this case, salary increase would be a good motivator because monetary rewards and opportunities for promotion serve as an indicator of assessing the work and activities of the teachers and, accordingly, increasing their motivation (Margolis & Deuel, 2009).

The literature states that teachers can support the idea of school reform, but the transition process and working conditions of the reform cause more negative emotions and repulsion (Kelchtermans, 2005). As a result, teachers often feel vulnerable and helpless (Measor, 1985, as cited in Kelchtermans, 2005). However, the emotional reaction of teachers may vary depending on their age and career stage (Kelchtermans, 2005). Teachers with work experience of more than 15 years treat education reforms more negatively than their younger colleagues (Knecht et al., 2019).

2.3.2. The impact of the updated curriculum reform on teachers

Gimranova (2018), in her study regarding the implementation of updated curriculum reform that she conducted a year after the reform introduction, concluded that most teachers are

positive about reform and support its ideas and practices. She writes that teachers see improvements in their teaching and students become more motivated to learn. However, some aspects and changes were not easy for teachers. Firstly, she states that experienced teachers struggle to adapt to the updated curriculum reform, because they have their own well-established concepts, beliefs and values, whereas adapting to the reform is much easier for their younger colleagues as they are not afraid of change. Secondly, according to her study, the introduction of the reform led to an increase in the workload of teachers, as it takes more time to prepare for lessons and to deal with paperwork. Moreover, a lot of aspects of the reform are new for teachers and, therefore, they need to spend a lot of time to understand how to deal with it.

Another challenge for teachers was the shortage of curricular materials. Resources for preparing course plans, guides, teaching and assessment materials were not sufficient enough. Having ready-made material for the lessons would be a good help to teachers, since it would be easier for them to understand the new features of the reform.

Managing big size classes was a challenge for urban teachers. Updated curriculum reform involves conducting group and pair work in the classroom. However, in some schools the number of students in classes exceeds 30, and in such cases, the effectiveness of such tasks is controversial (Gimranova, 2018).

2.4. Changes that were implemented with the updated curriculum reform

2.4.1. Switching to the criterion-based assessment

With the introduction of the updated curriculum, the assessment methods have changed. The criterion-based assessment was introduced. International scholars conclude the positive

effect of using this kind of assessment. There are several reasons for that. Firstly, in the updated curriculum, summative and formative assessments are used, and they are both important assessments for learning (Stiggins, 2002). Formative assessment is good because it is part of the learning process and allows the teacher and student to learn how it goes (Stiggins 2002). Secondly, scholars confirm that formative assessment helps to improve the learning process (Black and Wiliam 2006; Harlen 2006; Stiggins 2005; Stobart 2008 as cited in Mui So & Hoi Lee, 2011). In addition, this assessment is ongoing and allows students to constantly learn (Stiggins, 2002). Moreover, it has rubrics and descriptors that help students to develop responsibility for their learning process (Gimranova, 2018). However, recent studies in Kazakhstani schools revealed that criterion-based assessment is one of the most challenging components of the implemented reform, as students and parents are not satisfied with the new grading system (Suyundikova, 2019).

2.4.2. Transition to student-centered learning

Another part of the updated curriculum reform is promoting student-centered learning. Student-centered learning is an educational process in which students learn in an open-ended learning environment (Hannafin et al., 2004, as cited in Lee & Hannafin, 2016). In the old traditional teaching methods, the teacher was the main information carrier, and the entire educational process went through him or her. However, the updated curriculum reform implies that the teacher is the organizer or manager of the educational process, and he involves students in active learning. Active learning is defined as “anything that involves students in doing things and thinking about the things they are doing” (Bonwell & Eison, 1991, p.2). The literature supports active learning because students learn better when they take part in the educational

process, discuss what they read, and practice what they learn (Smart & Csapo, 2007). The main characteristics of active learning are that students are focused on the development of skills rather than memorizing information. Students can develop high order thinking skills and engage in different activities.

Recent studies in Kazakhstan show that transition to student-centered learning was a challenge for teachers of big-size classes (Gimranova, 2018). In addition, student-centered learning requires time for preparing different activities and, therefore, increases the workload of teachers.

2.4.3. Introducing differentiated instructions in lesson planning

One of the main elements of the professional development program for the updated curriculum reform was the ability to differentiate instructions and tasks. The goal of differentiation is to satisfy the educational needs of a wide variety of students, which may include gifted children, children with low academic performance, and children with learning disabilities (George, 2005 as cited in Yuen et al., 2018).

Differentiating the instructions in the classroom means that a teacher realizes that all children in the class are different and require a different approach, since each student may have a different level of language skills, different hobbies and abilities (Tomlinson, 2003 as cited in Hertberg-Davis, 2009). Moreover, teachers who use differentiation are those who are aware that a standardized curriculum cannot be suitable for all students (Hertberg-Davis, 2009).

Literature from the international studies declares that conducting differentiated instructions is a challenging task for teachers (Moore, 2019). This is because teachers usually do

not have enough time to prepare differentiated instructions since it requires a lot of time. As a result, students do not receive these kinds of instructions.

The researcher did not find any relevant information about the differentiation in Kazakhstani schools. Therefore, it is important to explore how differentiation occurs according to the updated curriculum reform.

2.5. Professional development of teachers

A considerable amount of literature has been published regarding the importance of professional development of teachers and principals (Sparks, 2002). Several reports in the United States declare that there is a connection between professional development and improvement in students' achievement (Sparks, 2002). Guskey (2002) declares that quality in-service training is the main component of improving the quality of education.

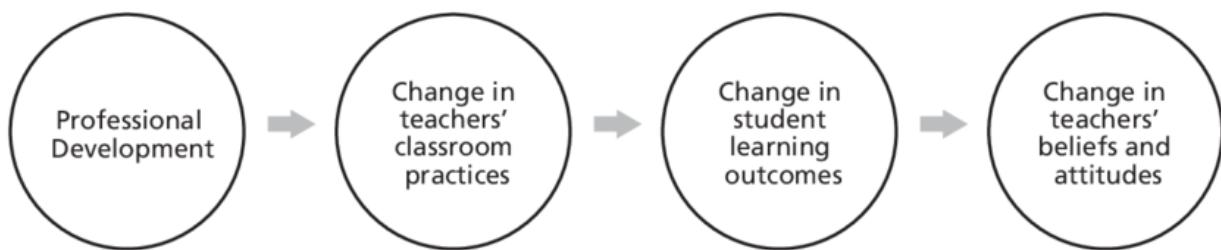
Little (2001) particularly emphasizes teacher learning as the main resource of reform. He declares that no matter how well the idea of reform would be planned and approved, the progress of this reform will rest on the abilities and capacities of teachers, both individually and collectively (Little, 2001). Therefore, it may be worthwhile to attach more importance to teacher training than to reform itself (Little, 2001). However, scholars note that a lot of professional development programs are ineffective (Harris & Sass, 2011; Guskey, 2002). Therefore, it is important to understand that effective in-service teacher training should have certain features. According to Sparks (2002), these features are workshops, giving enough time during the day, guided peer observation with feedback, research groups, and demonstration lessons by experienced teachers.

In 2016 - 2017, 152 thousand Kazakhstani teachers (53%) participated in advanced training courses on the updated curriculum reform (MES, 2018). This means that the remaining half of the teachers did not take courses in the updated curriculum in the first two years after the transition to the new reform. A similar picture was observed in China, where many teachers did not attend professional development programs, and those who attended were not satisfied with their quality. For reform to succeed, teachers must be active participants in the reform and good teacher training leads to successful results (Dello-Iacovo, 2009).

Another important point of teacher training courses is the amount of time which is allocated for them (Johnson, 2006). Courses that last less than 80 hours are not enough to bring changes in practice (Supovitz & Turner, 2000, as cited in Johnson, 2006). The duration of courses on the updated curriculum reform for most of the Kazakhstani teachers was about 80 hours. This time is too little to learn and understand the reform because training should be an ongoing process, and short-term courses do not carry any benefits (Johnson, 2006).

2.6. Conceptual framework using Guskey's model of teacher change

Figure 1. Guskey's model of teacher change



Note. Adapted from T. R. Guskey, 2002, p.383.

The conceptual framework for the study is based on a model of teacher change (Guskey, 2002). The rationale for the use of this model is that it reveals what factors affect changes in teachers' attitudes, beliefs, and practices. In his model, Guskey (2002) states that the professional development program has three main goals which are "change in the classroom practices of teachers, change in their attitudes and beliefs, and change in the learning outcomes of students" (p.383). In addition, he notes the importance of the sequence of these factors for the success of the change. According to Guskey (2002), "significant change in teachers' attitudes and beliefs occurs primarily after they gain evidence of improvements in student learning" (p.383). These improvements are usually the result of changes in teacher practice in the classroom. For example, teachers' use of a new material or a curriculum, and changing the format of lessons or teaching methods.

As a result, the beliefs and attitudes of teachers do not change due to the professional development programs, but as a result of their successful implementation (Guskey, 2002). Successful experience of any innovation forms the faith of teachers in its effectiveness.

2.7. Conclusion

Kazakhstani secondary education has undergone great changes over the past three years. The curriculum has changed, differentiated learning has been introduced, traditional assessment has switched to criterion-based assessment, and the learning process shifted from teacher-centered approach to student-centered approach.

One of the main challenges was that a lot of teachers did not have an opportunity to participate in professional development courses preparing them for the reform changes.

Therefore, unless teachers receive sufficient in-service training courses equipping them with the necessary skills to implement new reforms, the reforms may not result in effective outcomes.

Finally, Guskey's model of teacher change is used as a conceptual framework for this study.

Chapter 3: Methodology

3.1. Introduction

The purpose of this study is to explore teachers' perceptions of implementing updated curriculum reform in a specialized secondary school in Central Kazakhstan. This chapter describes the methodology of this study. Firstly, the research design is explained. Research designs are “approaches that provide specific direction for procedures in a research study” (Creswell & Creswell, 2018, p.53). The following sections contain information about the research site, sampling, data collection procedures, data analysis methods, ethical concerns, and limitations of the study.

3.2. Research Design and rationale

A qualitative research design was chosen for this study. According to Creswell (2014): “Qualitative research is research that relies primarily on the collection of qualitative data” (p.82). This type of study is generally used to learn the experiences and views of people (Johnson & Christensen, 2014). In qualitative research, not only the result is important, but also how the process goes, as the researchers are interested in what is happening (Creswell, 2014). Qualitative analysis is ideally suited for this study since the researcher seeks to find out the perspectives and views of teachers on the implementation of the updated curriculum reform.

Moreover, this type of research is used when there is very little information regarding a particular topic or phenomenon (Johnson & Christensen, 2014). The implementation of this reform began just three years ago and during this time only a small number of studies have been conducted. In addition, the updated curriculum reform is introduced to 10th-grade students and

their teachers for the first time this academic year (2019-2020) because they were the last in the course of gradual implementation of the updated curriculum.

3.3. Research Site

In a qualitative analysis, the choice of participants and venue of the study is carried out according to purposeful sampling, based on those places and people that will help us maximize our understanding of the main phenomenon (Creswell, 2014). Conducting qualitative research usually means being at the place of study and conducting an interview, and therefore requires more access to the place of study than in quantitative analysis (Creswell, 2014). The research will be conducted in a specialized school which is located in Central Kazakhstan. This school was chosen as it is suitable for this study, and the researcher is an employee of this organization.

The selected school is a specialized secondary school with a focus on the science-mathematical direction. To enter this school, students undergo standard testing after the fourth grade and, if accepted, study from 5th to 11th grades. The classes in the school are divided into Kazakh and Russian speaking classes.

3.4. Sampling

In order to understand the central phenomenon of this study, purposeful sampling is used. In this method, the researcher intentionally selects those participants who possess the required criteria (Patton, 1990, as cited in Creswell, 2014). This is different from quantitative analysis, where random sampling is generally used, choosing representatives to further generalize the results of the study (Creswell, 2014).

The target population of this research is teachers of specialized secondary school who teach students from 5th to 10th grade. Teachers of 11th-grade students are not included as they are teaching according to the old educational system.

According to Creswell (2014), several people or cases are generally studied in a qualitative study. A larger number of participants is undesirable, as it is time consuming and can lead to superficial results (Creswell, 2014). For this study, a sample consisted of 8 teachers who volunteered to participate. In order to ensure that the data collected will be rich and strong, the maximum variation sampling was used (Cohen, Manion & Morrison, 2007). According to maximum variation sampling teachers with different years of experience, different language of instruction and various subjects were invited to the study.

3.5. Data Collection Instruments

The interview was chosen as a data collection instrument for this study. "The interview is a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard" (Cohen et al., 2002, p.349). In qualitative interviews, the researcher conducts individual interviews that contain semi-structured and several open-ended questions, the purpose of which is to extract information and opinions of respondents. Such interviews are good because they do not limit the opinions of participants. Face-to-face interviews were conducted because they are suitable for those participants who are ready and can easily share information and ideas (Creswell, 2014). The researcher conducted interviews in a language that was convenient for participants. Prior to the interviews, the researcher prepared an interview protocol, which is important for the proper structuring of questions and taking notes (Creswell, 2014). The approximate time of the face-to-face interviews was 40 minutes.

3.6. Data Collection Procedures

Firstly, the researcher started the data collection process after getting Ethics approval from NU GSE Research Committee. Secondly, the researcher met with the gatekeeper of the research site who is the principal of the targeted school site to get permission for conducting the research. During the meeting, the researcher explained the school principal the purpose of the study, its nature, and the potential benefits for the school administration and teachers. Next, the principal emailed all school teachers and invited them to get in touch with the researcher if they are interested in this study. The email contained information about the purpose of the study, research questions, its benefits and informed consent form. Later, the researcher provided further details about the study to those who expressed a desire to participate. Finally, all volunteers were invited to participate in the interview. Conducting an interview on the job site or at the home of participants can create challenges, so this detail was discussed with the respondents in advance to make it more comfortable (Creswell, 2014). All interviews were conducted in the participants' school at a time convenient for the participant. For the participants this venue was the most convenient. All participants expressed their desire to be interviewed after their classes when students were no longer at the school.

The interviews were recorded with the permission of the participants. The participants were informed in advance that they may not answer some interview questions and that they can withdraw from the interview at any stage. The researcher asked semi-structured questions and made notes during the interview because Creswell (2014) recommends it even if the audio is recorded. The researcher guaranteed that he will not use any real names and will use pseudonyms while the process of making notes and writing the thesis. The record data was stored in the

computer of the researcher, which was password protected. After the study is finished, the researcher deletes all the data.

3.7. Data Analysis Methods

The recordings of the interview were transferred to the computer of the researcher. The next step was to transcribe the interviews. According to Creswell, “transcription is a process of converting audiotape recordings or field notes into text data” (2014, p.239). Transcribing interviews and notes is a difficult and time-consuming process (Creswell, 2014). Therefore, the researcher devoted enough time to this. Firstly, the researcher re-read the transcripts several times and noted his impressions. Secondly, he coded the data by labeling all relevant words, phrases, sentences, and sections. Thirdly, he created themes and categories by bringing several codes together. Fourthly, the researcher analyzed written themes by making connections between them and by rearranging codes. Finally, he summarized all themes and codes by putting them in the order by their importance. As a result, the researcher highlighted three main themes that are further explained in the Findings and Discussion chapters.

3.8. Ethical Concerns and Risks of Research

This study was conducted according to the research standards of Nazarbayev University. Firstly, prior to the study, the researcher has completed the CITI program course on Social & Behavioral Research. Secondly, the researcher got approval from the Ethics Research Committee of Nazarbayev University to begin the study. Next, participants were informed that participation is strictly voluntary and that they can withdraw at any time. During the study, the research site was not indicated in any papers, and all the names of the participants were changed to

pseudonyms throughout the study. Moreover, to make it comfortable for the participants, the time and place of the interview was negotiated according to participants' preferences. The interviews were audio-recorded with the permission of the participants. The researcher saved all the interview data in the computer of the researcher which was password protected. After the study finished, the researcher destroyed it.

Since the researcher is an employee of the organization in which the study was conducted, the researcher asked the gatekeeper to email all school teachers with the information regarding the study. All teachers were invited to participate in the interview. The researcher did not force anyone to participate in the study. Before conducting the interview, the researcher asked the participants to treat him not as a colleague, but as a neutral person to obtain more objective data.

Chapter 4: Findings.

4.1. Introduction

The chapter demonstrates the findings of the current study, that aims to investigate teachers' perceptions and challenges in implementing updated curriculum reform in a specialized secondary school in Central Kazakhstan. There were two research questions: (1) What are the perceptions and attitudes of teachers towards the implementation of the updated curriculum reform in a specialized secondary school? (2) What are the challenges for teachers in switching to the updated curriculum?

Table 1. The Participants

Participant name	Work experience	Subject	Position
Rakhat	24 years	Physics	Teacher
Aigerym	10 years	English language	Teacher
Aliya	27 years	Physics	Vice-Principal
Anara	28 years	English language	Teacher
Amina	22 years	Kazakh language	Teacher
Azamat	3 years	Biology	Teacher
Erlan	10 years	Biology	Vice-Principal
Bekzat	9 years	Chemistry	Teacher

The data was generated from the individual semi-structured interviews with eight participants. Each participant was given a pseudonym, and their identities were kept confidential.

The information about the participants is provided in Table 1. All interviews were conducted in the native languages of the participants and were then transcribed and translated in English.

The findings of this study are grouped into four themes. The first theme is about the perceptions of teachers towards the updated curriculum reform. The second theme is about the attitudes of teachers towards the new assessment system. The third theme is about challenges that teachers faced in implementing the reform. The last theme summarizes all information that was presented in the findings chapter.

4.2. Perceptions of teachers towards updated curriculum reform

4.2.1. Implementation of the new reform

All teachers expressed their opinion regarding the need for an educational reform in Kazakhstani secondary education. In general, all teachers are positive about the updated curriculum reform. They confirm that the old educational system was acceptable, but the world is changing too quickly and requires new skills and qualifications from school graduates. As a result, educational reform was needed. Here are some quotes from the teachers:

Yes, of course, there was a need for it [reform], since the world has changed over the past 50 years, and the education sector should also have undergone these changes. (Aigerym)

Several teachers noted the unsatisfactory results of Kazakhstani schoolchildren in international exams. Despite the fact that Kazakhstan seeks to enter the top 30 competitive countries of the world, according to the international exams' ratings, the secondary education sector of Kazakhstan is far behind developed countries. This confirms the need for changes in secondary education:

The results of international exams showed that general Kazakhstani education is not competitive and lags behind the OECD countries. (Bekzat)

4.2.2. Features of the reform and teachers' motivation

Almost all teachers mentioned that updated curriculum reform focuses on the development of students' ability to apply newly acquired knowledge and skills that are required in the 21st century. They state it as a key feature of the reform:

...the old system was oriented on knowledge, not on personal growth. Now, the program allows you to fix this problem and make a bias on the growth of personality. (Aliya)

One of the teachers noted that with the new reform, we have moved from teacher-centered learning to students-centered learning. The role of the teacher has changed:

[the key feature is] switching from teacher-centered to student-centered learning. The role of the teacher has changed to a moderator. We teach children to learn. (Amina)

In addition to changes in the curriculum and teaching methods, one of the motivating elements of the reform was the salary allowance for teaching in classes with an updated curriculum content. Teachers revealed that the basic pay of the wage increased by 30%, which is a good encouragement and motivation for educators:

The salary allowance for work in terms of updated curriculum is substantial. (Anara)

4.2.3. Perceptions towards the updated curriculum

Teachers noted that they liked the new curriculum. Especially, the spiral method where students learn the same topic for several grades, starting from simple concepts and gradually progressing to the complex parts:

As a biologist, I really like the spiral method of going through topics. Previously, we went through the whole anatomy in Grade 8, and it was difficult to learn and understand. For example, a student went through the structure of a shrub and immediately studied its biochemical processes. It was complicated. But, now, with the new curriculum it has changed. In the seventh grade, the student learns what types of plants are there; in the eighth grade, what they breathe and eat; in the ninth grade, they go deep into the cellular structure and biochemical processes; in the tenth grade, they already study genetics. So, there is a gradual passage of topics, and I think it is right. (Erlan)

Teachers of English noted that the new curriculum focuses on the development of the skills, such as speaking, listening, writing, and reading. Before, the emphasis was on grammar and vocabulary:

The emphasis of the lesson is on the development of basic skills such as listening, reading, writing, and speaking, where grammar and vocabulary are the means, and not the main purpose of learning a language. (Aigerym)

However, one of the teachers noted she did not like the way the number of lessons dedicated for each lesson is reduced. That is, the number of lessons has decreased with the same amount of topics that have to be covered:

The number of lessons dedicated to physics has decreased. However, the amount of information has remained the same. I mean, we have to cover the same amount of topics, but with less amount of time. As a result, we have to go through topics at a superficial level. We can't go deeper into the details of the topics. (Aliya)

One of the teachers reported that one of the main drawbacks of updated curriculum reform is that after graduation, students pass the same public exams that their predecessors passed

before the reform was introduced. For this reason, it is difficult to determine how effectively the new reform allows the development of various skills of students, especially high-level skills.

4.2.4. Perceptions of differentiation

One of the questions was related to differentiation in the updated curriculum reform. All participants declared that differentiation is important.

Students in the class have different abilities and learning needs and, therefore, differentiation is needed. (Aigerym)

One teacher believes that we need to differentiate but to a certain point. His opinion is that if a student lags behind we must help him to catch up with his peers:

I think that there are goals that all students must acquire. It [differentiation] is necessary, but this must be to a certain point, there is a minimum that everyone has to pass. You cannot go below the standard. (Erlan)

One of the most experienced teachers said that she had already been differentiating for many years. Differentiation has been happening according to old educational standards:

Differentiation in the lessons has always been and is still used now. Differentiation according to assignments, instructions, working groups, explanation of the material, and according to class level. This was the case in the old system. (Aliya)

However, participants did not comment much on the preparation of differentiated instructions and assignments. From these teachers, it could be understood that most of them did not differentiate often. One of the reasons for this is time:

Unfortunately, differentiation takes time. Preparing different level tasks may take a lot of time. We try to do the maximum number of tasks during the lessons. It again depends on the

level of the class. (Azamat)

4.2.5. Attitudes towards the teacher training program

Overall, the participants expressed their opinion that the preparation course for the updated educational content was satisfactory for introduction purposes. One of the teachers noted that “no matter how well you are trained in the courses, you will learn everything in practice”.

According to Aliya, satisfaction on preparatory courses depends on the group in which you participated and the course instructor. Her preparatory group consisted of experienced teachers from different regions. Therefore, she was glad for the opportunity to discuss and share their problems and solutions regarding the updated curriculum reform.

Despite the overall satisfaction of the preparatory courses, two teachers mentioned that “the course could have been organized better”. One of them expressed a desire to participate in demonstration lessons of master teachers. Another one said:

For me, it was not useful. During the two weeks' time we were only preparing the lesson plans. We could actually dedicate only one week for that, and the second week do something different. However, during this course, I got access to the materials and pre-done presentations and tasks. That was a benefit for me. (Azamat)

Another drawback was that, initially, preparation courses were conducted during the summer holidays when teachers usually go on vacation, and they did not like that.

4.3. Attitudes of teachers towards the new assessment

As noted earlier, teachers are generally satisfied with the new reform. They reacted positively towards most of the innovations. However, most of the teachers spoke out negatively

about the new grading system. There was a huge amount of comments towards assessment, some of them were controversial, and, therefore, it was written as a separate theme.

4.3.1. Criterion-based assessment

The new grading system is called a criterion-based assessment. It implies that the assessment takes place according to certain criteria, which depend on the goals and objectives of the lessons and curriculum. Most teachers very positively noted the existence of clear criteria for assessments. They believe that this made the assessment reliable and transparent.

In the new grading system, I like the availability of criteria and descriptors for grading. They allow you to more accurately and precisely identify what skills are formed and to what extent. (Rakhat)

However, introduction of the criteria is not the only change in the assessment system. According to the new grading system teachers grade students' term and annual marks by using summative assessments for a chapter (SAC) and for a term (SAT). These assessments are conducted approximately once a month. During daily classes, teachers conduct formative assessments where they provide written or oral feedback for students. Some teachers did not like the fact that grades are given only for two or three tests. They note that focusing on several exams is a problem since some students may feel sick during the exam and they will not have an opportunity to correct the grade later:

The main drawback is the assessment system. Students may not be ready for the exam only. During the lesson time they may be ready, but during the exam time they may become ill, they can just make some mistakes and this will lower their grades. (Azamat)

4.3.2. Control and motivation

Participants said that according to the updated curriculum reform, teachers have stopped giving students daily grades. During the lessons, the teacher provides feedback to the students, and the students are supposed to give feedback to each other, but no assessments are provided during the lesson. This has led to the fact that teachers have lost the instrument of controlling students in daily classes. Without proper control, a lot of students begin to come unprepared to lessons:

This system makes students relax during the lesson.
Children are preparing only for the final result, for the test.
Children do not work every day. I consider this a significant flaw. (Anara)

Anara, Erlan, and Azamat confirmed that the least popular aspect of the reform was the new grading system. Moreover, some teachers claim that without everyday grading, they lost control of students during the lessons:

They stopped trying to learn every lesson and relaxed,
and it seemed to me that I had lost control of the children. (Amina)

Criticism can be understood by the fact that all teachers are students of the old system, where they received grades every day. It was difficult for them to lose the main tool of control in the classroom. This especially affected teachers with considerable pedagogical experience. Some teachers expressed a desire to introduce some changes to the current assessment system or restore the old assessment methods that they used before:

I believe that in the lesson the student should receive an assessment. Every lesson, I don't like the fact that the student does not receive grades every lesson, he [student] does not try and walks relaxed. The grading system needs to be adapted a bit. (Anara)

4.3.3. Positive attitudes

Teachers who responded positively to the grading system noted that students and parents, as well as many teachers, simply do not yet understand the benefits of formative assessment. Preparation of formative assessment tasks takes more time, however, the advantage is that the students, themselves, are now responsible for their learning. And now they study for the sake of knowledge instead of grades.

I like this system. But the parents of the students do not understand that the responsibility lies with the children themselves and their parents. Here, the concept of education has not yet passed over. (Aliya)

Aliya and Bekzat noted one interesting point regarding the new grading system. This commentary revealed one of the colossal advantages of this assessment:

... students calmly express their thoughts. They don't worry that they can be given a bad mark for their mistakes. (Bekzat)

Another teacher mentioned:

[I liked] the formative assessment. Daily grades kept the children in good shape, and they were preparing for the lessons. But, at the same time, it creates fear. And fear gives rise to self-doubt. Lack of fear in the lesson, when the child can calmly go out on the board without fear of getting a bad grade for it. I liked it.

4.4. Challenges in implementing the updated curriculum reform

The introduction of a new reform was not easy. Teachers had many problems. Some of them have been resolved over time, and others have not.

4.4.1. Confusion

One of the first and main problems was the teachers' confusion about what was required of them. They understood the need for reform but did not know exactly how they needed to develop a lesson. As a result, some teachers were unsure of themselves. This was especially observed at the beginning of the introduction of the new reform.

In the beginning I did not understand what was required of me and what I should do. After the introduction of the updated curriculum reform, I taught for a year without taking any in-service training courses. I participated in school meetings, where I had short explanations of the reform. But I did not have a general idea of the reform. (Bekzat)

One of the teachers stated that having model lessons in each subject would be a good help in mastering the principles of the new reform:

Perhaps it would be good if the professionals or those who conceived of this reform would show us in practice how the lessons should be taught. And then we would study this lesson, its stages. (Erlan)

Due to insufficient information and clarification of the goals and methods of reform, teachers tried to interpret it themselves. As a result, they embodied the reform the way they understood it.

... some teachers understood [the reform], and some did not. Each teacher explains it as it's understood by them. (Anara)

Moreover, Erlan noted that when the reform was introduced, some teachers rejected it. They did not want to adopt new rules and methods. This was mainly done by the older generation of teachers with vast experience:

Some teachers still have not accepted this system, some have changed their minds and are now positive about it. That is, teachers did not understand this system. As they

say, what we are not familiar with is what we are afraid of. (Erlan)

4.4.2. Transition process

Another perceived problem among the teachers was that the transition was too fast.

Teachers mentioned that they had little time to master and understand the features of the new reform. According to the respondents, perhaps, the reform would have been implemented more effectively if it could have been taking place in a slower gradual pace spread over the years.

Another two teachers declared that they usually teach high school students, such as Grades 9-11. Therefore, changes in the curriculum affected them only this year. And for them, this is the first year of the updated curriculum, and not the third as for some other teachers. The transition of classes is shown in Table 2.

Table 2. Transition to the Updated Curriculum

School year	Grades that switched to the updated curriculum reform										
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
2016-17	yes										
2017-18	yes	yes			yes		yes				
2018-19	yes	yes	yes		yes	yes	yes	yes			
2019-20	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	

According to Azamat, it will take many years to get any positive results from this reform.

I think that this education system will give results in 10-20 years. We need to give it time. A funny fact is that a government waits for better results in education in 1-2 years, and after not getting it, they again implement some changes. We do not have to do it. Giving it time is the best solution. It will give results later. (Azamat)

Another teacher said that students who started their elementary school education under the new reform will be able to show the effectiveness of this reform. Since they will have enough time to adapt to the new teaching methods. For them, this reform will be able to fully reveal their best qualities and potential. However, for students in Grades 9 and 10 the situation is difficult because they studied according to the old system for a considerable amount of time, and right before graduation in their final years of study, they had to adapt to the updated curriculum reform.

Some children before the ninth grade studied according to one system, and after, there is a sharp change to another system. Naturally, he can't be ready. The transitions are somewhat tragic. (Aliya)

4.4.3. Workload

The final challenge in implementing the updated curriculum is an increase in the workload of teachers. It took time for teachers to get used to the new methods, and preparation for lessons took a lot of time in the beginning. However, as they learned, it became easier:

In the beginning, when you started working on a new reform, it took a lot of time to prepare for the lessons, since it was necessary to understand the process of setting goals, choosing tasks for the goal, etc. (Aigerym)

Planning the lessons and adapting to the new reform required a considerable amount of time. In addition, after each lesson teachers are supposed to provide feedback for the students in written or verbal way:

Formative assessment, as this is a very large energy-consuming work on the part of the teacher. (Aigerym)

4.5. Summary

This chapter revealed the findings of the current study. The first part explored teachers' perceptions of the updated curriculum reform, criterion-based assessment, and other key features. It was found that all teachers have positive views on the new reform. They understand its importance and purpose. However, in the next part of the findings chapter, all teachers reported that the process of transition to the reform was challenging, and a lot of aspects were not clear at the beginning. The workload increased, the adaption time was short. Apart from this, one of the most challenging and the most discussed parts of the reform was the assessment. Many teachers had negative opinions towards the new grading system and would like to return the previous one.

These findings will be discussed making connections with the relevant literature and the adopted theory in the next chapter.

Chapter 5: Discussion

5.1. Introduction

This chapter presents the analysis of the research findings by comparing these data with the literature review and research questions of the study. The chapter consists of 4 sections: perceptions of teachers towards the updated curriculum reform, perceptions of teachers towards the new assessment, challenges in implementing new reform, and a summary of the chapter.

5.2. Perceptions of teachers towards updated curriculum reform

5.2.1. Implementation of the new reform

Like many other countries in the East and West, Kazakhstani secondary education experienced a curriculum reform to improve the quality of its education (Altinyelken, 2010; Knecht et al., 2019; Park and Sung, 2013). Similarly, to China, the reform was implemented from the primary and junior secondary grades (Dello-Iacovo, 2009). The implementation of updated curriculum reform began in 2016 in first grade and the next year continued in second, fifth and seventh grades.

According to my findings, teachers accepted the updated curriculum reform. Acceptance means that teachers positively evaluate the new reform and have a good opinion about its practices, trying to take actions in favor of its further development (Roggenbrodt, 2008 as cited in Knecht et al., 2019). Teachers state that there was a need for changes in the education system following the rapidly developing world. The knowledge-oriented education system has outlived itself and does not fit the realities of the twenty-first century, where qualities such as collaboration, critical thinking, communication, and creativity are required. Teachers, especially,

indicated the development of communication skills by which students became more open and confident in expressing their thoughts. These findings correlate with the previously conducted research in Kazakhstani schools by Gimranova (2018).

Teachers' positive attitudes towards the updated curriculum reform can be explained with the help of Guskey's model of teacher training (Guskey, 2002). Teachers have repeatedly mentioned changes in students' behavior in the classroom, namely that they have become more open and communicative. In addition, more and more students have learned to become more responsible for their education. These examples are indicators of changes in student learning outcomes, which in turn led to a change in teachers' beliefs and attitudes towards the reform. However, at the very beginning of the reform implementation teachers were very negative about the introduced changes. This is a normal reaction, since it is human nature to repulse those changes that make him leave his "comfort zone". Moreover, this changes and innovations made teachers spend a lot of time studying them and they could go against the principles and concepts of teachers, which guided them for many years.

Changes of teachers' opinions towards introduced reforms can be explained with the help of Guskey's model of teacher change (Guskey, 2002). Sometime after the introduction of reform, teachers gradually came to realize the advantages and benefits of the new reform. However, teachers finally begin to change their opinion only after seeing positive results in the students' academic performance. As mentioned before, the reason for the change in teachers' beliefs came along with the improvements in the students' learning.

In terms of teacher experience, according to the literature, teachers with a pedagogical experience more than 15 years are more negative about the reforms in education than their young

colleagues (Knecht et al., 2019; Suyundikova, 2019). However, this was not observed in my study, and no relationship was found between the age of the respondents and their attitude towards the reform which is analogous to the results of Ixanova (2018) and Kin & Kareem (2015). Teachers with different experiences have similar positive and negative perceptions towards the updated curriculum reform and its constituents.

Despite the fact that students' performance is improving and the fact that reform is beginning to justify itself, there is, still, some limitations that should be addressed regarding the updated curriculum reform. One of them is problem with university entrance examinations. Although one of the features of the new reform is the development of high-order thinking and soft skills, participants noted that the students who graduate take the same old exams. This is similar to the problems that were revealed in the studies of curriculum reforms in China by Marton (2006) and Dello-Iacovo (2009), where authors mentioned mismatches between the changes in curriculum and university entrance exams. This negates all the innovations and work of teachers since university entrance examinations are given great attention. Therefore, students will prefer preparing for public exams rather than developing new skills and abilities.

5.2.2 Features of the reform and teachers' motivation

The introduction of a new reform has allowed a transition to active learning and student-centered approach. Literature supports these methods because students learn better when they discuss and practice what they learn (Smart & Csapo, 2007). However, some teachers pointed out that it is not always possible to use those methods and sometimes it's more convenient and efficient to use a teacher-oriented method that is proven and familiar to experienced teachers. Dello-Iacovo (2016) suggest similar findings in her study. She notes that teachers continue to

teach as they used to do it before. The reasons for that are problems with reform implementation and poor in-service teacher training organization.

The findings of the study also show that one of the most pleasant bonuses of this reform for teachers is the increase in their salary. Monetary reward is a good motivation for teachers. (Margolis & Deuel, 2009). It increases teachers' self-esteem. As a result, proper motivation of teachers can lead to a successful reform (Day, 2002).

5.2.3. Perceptions towards the curriculum changes

Gimranova (2018) in her study about the updated curriculum reform in the Akmola region stated that teachers positively praised the changes in the curriculum. It became more connected to everyday life and focused on the development of students' practical skills. This is comparable to the words of the participants Aigerym and Rakhat, as they mentioned that the updated curriculum helps develop functional literacy. As an example, language teachers declared that the new curriculum is aimed at the development of skills that are used in everyday life, such as reading, speaking, writing, and listening. Whereas, the old one was more focused on grammar and vocabulary.

Another teacher mentioned the benefits of spiral teaching method, which implies that the same topics are gradually becoming more complex with each grade. This allows teachers not to overload students with a huge amount of information.

As a result, I can conclude that the preparation of the curriculum was very well thought out and correctly formulated.

5.2.4. Perceptions towards differentiation

According to updated curriculum reform teachers are supposed to prepare lessons taking into account the different levels of cognitive skills of students. Teachers prepare tasks for students with three levels of difficulty. A level tasks - tasks that all students must complete; B level tasks - tasks that most students can complete; C level tasks - tasks that only some students can complete. The use of such differentiated tasks makes it possible to grasp students with different abilities. This is very important because if a teacher does not provide quite complex assignments to students with high academic performance, then they may lose interest in the learning process. This will negatively affect their further education. However, the findings of my study suggest that teachers often ignore these recommendations and prepare tasks of only one level for all students. This reduces the effectiveness of the learning process. In addition, the results of the study show that teachers perceive differentiation as a way to support only those children who have low academic performance or are students with special educational needs. Teachers leave these children for additional classes or try to pay more attention to them during the lessons. Other students who have average and high academic performance get less attention.

According to literature review, the differentiation is a complex and time-consuming process. Therefore, teachers do not have enough time to prepare such tasks on a daily basis. A possible solution to this problem may be to increase the amount of ready materials, such as lesson plans, tasks, and recommendations for teachers. This would reduce the burden on teachers in preparing for lessons.

One of the participants said that at the beginning of the reform process when she just started to teach students according to the updated curriculum reform she did not have time to

work with all the children during the lesson. It seemed impossible for her to work with all the children in a short lesson. However, after one year of teaching this way, she declared that now she is able to use the allotted time as efficiently as possible, working with all the children and completing all stages of the lesson. From this we can conclude that the ability to work with different children depends on the experience and abilities of the teacher.

5.2.5. Attitudes towards the professional development program

Teachers noted that the preparatory courses for the updated curriculum were introductory and helped to understand some of the fundamental points of the reform. During these courses, teachers took the opportunity to gather with their colleagues from different regions to discuss various problems and their solutions regarding changes in the curriculum.

However, there was no mention of the fact that these courses somehow changed the teachers' attitudes, what is relatable to Guskey's model of teacher change that states that in-service teacher training programs are not determining factors in changing the attitudes and beliefs of teachers (Guskey, 2002). In addition, Harris and Sass (2011) found that the productivity of primary and secondary teachers increases with gaining experience and they learn something after doing it what is the same with the opinion of the participants who stated that practical experience is more useful than theory gained in courses.

Some teachers expressed their views that they would like to participate in the so-called "master lessons" by experienced in new reform teachers. It would shape their understanding of the reform and teachers would know how the lessons need to be conducted. These method is supported by Little (2001) who states that one of the factors of an effective professional development program is participation in demonstrative lessons of master teachers.

Little (2001) also states that professional development should be given “adequate time during the workday” (p.16). In the same time, teachers complained that in-service teacher training course were conducted in the summer time when Kazakhstani school teachers usually go to vacation. This factor had a very negative impact on the perception of reform and, as a result, reduced the effectiveness of professional development programs.

Another challenge with the in-service teacher training program was related to the time dedicated for this program. The average duration of those programs was about 80 hours which is the minimum amount of time that is recommended by Johnson (2006). Therefore, once again, the effectiveness of this course were doubted. However, despite all these facts, it is interesting that all participants declared that time dedicated for professional development programs was enough. In the same time, a possible reason for that may be the fact that most of the courses were conducted in the summer and teachers did not want to spend more than 80 hours of their vacation time for professional development purposes.

5.3. Attitudes of teachers towards the new assessment

As mentioned in the findings chapter, the new assessment system was particularly highlighted by the respondents during the interviews. Teachers expressed both positive and negative views regarding this system. Some teachers said that at first, they did not understand how they are supposed to conduct the lessons without using the old grading system. Others stated that the new system is similar to what they have had during their university education, and they liked it. All these opinions are discussed in the following sections.

5.3.1. Criterion-based assessment

Regarding the criterion-based assessment, all participants concluded that having clear criterias for assessment is beneficial and convenient. The assessment became honest and now does not depend on the opinion and attitude of the teacher towards the student. Using this grading, students have become more responsible for their learning. These findings are confirmed by the study of Gimranova (2018), where she argued that descriptors and criteria positively affect the motivation of students and helps in developing their responsibility.

The introduction of clear criteria is the only element that all teachers respond positively to. As for the remaining components of the new grading system, teachers have different opinions.

With regard to formative assessment, half of the teachers expressed their extremely negative opinions. They still did not accept the fact that they can no longer give students grades for the work that students do during the lesson. Gimranova (2018) concluded that it is very difficult for experienced teachers to accept new reform, as they have well-established principles, concepts and values. Knecht, Peskova and Spurna (2019) supports this finding by stating that it may take many years to change people's understanding of educational changes, especially for people in post-Soviet countries.

Teachers used classroom assessment as a way to reward and punish students for their work. If the students did not complete any tasks, the teachers had the right to give them the worst grade. That, in turn, formed the appearance of students' fear of mistakes in the classroom. On the contrary, the introduction of formative assessment allows to get rid of these negative effects of assessment during the lessons. Formative assessment in the updated curriculum reform implies that the teachers provide students with verbal or written feedback, which subsequently does not affect the final grade of students in the term.

Scholars support introduction of formative assessment by indicating that it has a good effect on improving students' performance and allows teachers to control students' learning (Stiggins, 2002). Therefore, I believe that over time, all teachers will understand and realize the positive aspects of the new assessment.

5.3.2. Positive effects

The lack of fear of getting a low grade in the lesson was noted by teachers as one of the advantages of the new reform. Pupils feel that they can express their point of view to their peers and teachers. They are not afraid of being punished by the low grade during the lessons. It is a very positive effect of the reform and helps students in their further development as individuals.

Students are not the only ones who began to feel more relaxed in the schools. Teachers noted that the implementation of the updated curriculum reform coincided with the digitalization of electronic diaries. The introduction of electronic diaries greatly simplified the lives of teachers. They no longer need to write the same student lists and calculate their term and annual grades. At the same time, assessment became transparent, as it allowed students and their parents to constantly monitor the progress of their education and the correctness of the given grades.

5.4. Challenges in implementing the updated curriculum reform

A lot of educational reforms have been carried out in different countries of the world in order to improve the quality of education. Despite the fact that reforms are well planned and designed, teachers are hard on perceiving educational changes.

5.4.1. Confusion

Inadequate understanding of reform was noted by respondents as one of the difficulties in introducing reform. When reform was introduced, teachers were poorly informed about the goals, objectives, and benefits of the reform. This, accordingly, negatively affected the perception of the reform by teachers and the effectiveness of its introduction. Cheung and Wong (2012) pointed out that this problem along with increasing the burden on teachers and the diversity of students in the classroom, is a common challenge in implementing educational reforms.

The lack of understanding of the goals of the reform by Kazakhstani teachers can be explained by the fact that only half of the teachers in professional development programs for preparation for the updated curriculum reform in the first two years (MES, 2018). This is confirmed by the words of the respondents who stated that they taught classes that they were supposed to teach according to the updated curriculum reform. However, they did not participate in preparatory courses, which accordingly affected the quality of their teaching. As a result, some teachers conducted lessons as they used to do it before the updated curriculum reform. The similar problem was in China, where curriculum reform was ineffective due to the lack of clear instructions and poor support of methodological associations for teachers (Dello-Iacovo, 2009).

5.4.2. Transition process

As noted earlier, the introduction of the new reform was accompanied by numerous problems for teachers, such as the lack of clear instructions, the inability to attend in-service training courses, and the availability of a small amount of educational material. In addition to these factors, it required a considerable amount of time for teachers to get used to the new system. All these factors negatively affect the opinions of teachers towards the new reform (Kelchtermans, 2005).

Teachers noted that in addition to all the problems teachers faced during the introduction of the curriculum reform, they especially felt sorry for the students, for whom these changes were also new. Particularly respondents highlighted the transition of high-grade students. These are classes for which there were only two or three years left for graduation. Therefore, teachers expressed the view that these classes should have been given the opportunity to finish according to the old traditional system.

As a result, due to the fact that the transition to the updated curriculum reform was very difficult for teachers and for some grades of students, it is naive to believe that a quick reform will give quick results. Therefore, significant results in improvement of students' academic performance can be expected only in several years.

5.4.3. Workload

According to Day (2002), school reforms destabilize teachers by a violation of their principles and habits, leading to increased workloads. Increasing the burden on teachers is the expected effect that appears when introducing any innovations. Violation of the usual daily routine leads to a waste of time and energy for teachers in order to learn changes in the curriculum. Respondents confirm this as it took a huge amount of time, at the beginning of the reform, to get used to it. In addition, participants mentioned that the preparation of lessons according to the updated curriculum reform requires more time. Similar conclusions were done in the study of Gimranova (2018), where she also stated that there was a lack of ready-materials for lessons and, consequently, they had to spend more time for preparation purposes. However, according to the findings of my study, one of the respondents, on the contrary, noted the presence

of a large amount of material that helps him to prepare for lessons. This means that some problems of past years are gradually being addressed.

5.5. Summary of the chapter

This chapter discussed the main findings of this study in comparison with previous research regarding the implementation of curriculum reforms in secondary schools. The study showed consistency with the reviewed literature considering the teacher's acceptance and attitudes towards the reform. They welcomed the features of the new reform, and monetary reward for teaching according to the updated curriculum was a pleasant bonus.

The major challenges were identified as an increase in workload, fast transition process and lack of clear instructions. These difficulties have led teachers to sometimes neglect the recommendations of the new reform and teach the lessons as before.

According to the participants, the next thing that needs to change after the updated curriculum reform is entrance exams to universities. These exams continue to focus on testing low-level skills, which lowers the importance of developing high-order skills during lessons in schools.

Another finding from this study appeared to be the attitudes of teachers towards the criterion-based assessment. Many teachers are not ready to part with traditional assessment in the classroom since they worked with it for decades, and it's hard for them to abandon their principles and beliefs. Therefore, this part of the reform is the most challenging for teachers.

Apart from the assessment, it was expected that a short time in the preparatory courses for the new program would be a challenge in carrying out the updated curriculum reform. However, teachers expressed their satisfaction with the preparatory courses and stated that practical experience during the work is more important.

Further, it was revealed that some challenges associated with the introduction of this reform are being gradually resolved. In this case, according to the participants, the problem with the availability of material for the lessons was successfully resolved.

Chapter 6: Conclusion

6.1. Introduction

The chapter summarizes the results of the study addressing the research questions. The purpose of the research was to explore teachers' perceptions and challenges in implementing the updated curriculum reform. In addition, the chapter provides an overview and implications of findings according to the research questions, the limitations of the study and recommendations for future research.

6.2. The summary of Findings and Discussion chapters

6.2.1. How do teachers of a specialized secondary school perceive the introduction of the updated curriculum reform?

Teachers have positive attitudes towards the updated curriculum reform. They confirmed that reform was needed, as the old program did not meet the requirements for the development of various skills among students. They noted that the way they prepare and conduct the lessons have changed, and students began to participate more actively in the lesson and freely express their opinion. These improvements in student learning can be characterized as the main factor in the change in the attitude of teachers towards the updated curriculum reform according to the model of Guskey (2002). As a result, the role of the teacher began to gradually shift from the transmitter of information to the manager of the learning process.

The most challenging part of the reform to accept was the criterion-based assessment. The way teachers evaluate students has changed. This led teachers to lose the instrument of student

control and motivation. Despite the fact that some teachers liked these changes, and they quickly got used to them, many teachers still have difficulty evaluating students.

The findings also revealed that university entrance examinations have not changed after the introduction of the updated curriculum reform. According to teachers, it needs to be changed in order to emphasize and show the importance of changes in secondary education.

6.2.2. What are the challenges for teachers in switching to the updated curriculum reform?

In addition to the difficulties with the assessment system the main challenges revealed are the lack of clear instructions, increased workload, and fast transition process. Firstly, teachers complained that they had to deal with changes in the curriculum themselves and therefore they began to doubt the correctness of their actions. Secondly, despite the fact that adaptation and getting used to the new reform took a long time, they noted that preparation for lessons according to the updated program requires more time. Thirdly, teachers believe that the transition process should have been gradual. High school students will not reveal the potential of the new reform since they switched to it too late.

6.3. Research implications and recommendations

This section presents recommendations for further improvement of ongoing and future reforms in education. The recommendations are based on the views of the participants, reviewed literature, and the opinion of the researcher.

The first recommendation is to give teachers more time. Teachers take the key role in education and educational reforms. Therefore, teachers need to have enough time to prepare and

adapt to any educational reform. It would be fair to present the features and benefits of the planned reform at least a year earlier than the reform itself. This will give teachers time to reflect on the benefits of reform. Moreover, it would be beneficial to let practicing teachers take part in the preparation of the curriculum. This will allow teachers to feel responsible for the reforms and to carry out them more meaningfully.

The second recommendation is to conduct the reform gradually. The reform should start from the lowest grades of primary school. First grade students switched to the updated curriculum reform in 2016. Perhaps it would be more correct to start only with them and allow secondary and high school students to graduate with the old traditional curriculum. It would take ten years for schools to fully switch to the new curriculum. However, there is a possibility that it would be less challenging and more effective.

Next, improve the quality of textbooks. With the introduction of the updated curriculum reform, new modified textbooks began to appear. Some textbooks, such as English textbooks, are well prepared to meet the requirements of the new reform. However, the content of most textbooks has remained the same as before or has become even worse. As a result, it is recommended to review the current textbooks and improve their quality.

Finally, change the university entrance exams. Admission to the university is considered as a successful step into a professional career in our country. Therefore, the mismatch between the goals of school curriculum and questions of entrance exams at universities makes teachers and parents think about the meaning and usefulness of the conducted reforms.

6.4. Research limitations

The research presented in this study has various limitations. Since this study was conducted in one specialized school for gifted students and interviews were conducted with only eight participants, these results cannot be generalized for all schools in Kazakhstan. Therefore, it may be more appropriate to conduct a larger-scale study within different regions of the country.

The next limitation is regarding the data collection instruments. All data and information from this study were collected through interviews with participants. A quantitative survey would help gather more information and reach more participants.

Another limitation is that interviews were conducted only with teachers. Conducting research with other stakeholders, such as members of the Department of Education, school principals, parents, and students may help to reveal this topic in more detail. Moreover, the participants of this study were only science and language teachers. Curriculum changes of other subjects, such as history, geography, maths, ICT, physical education, were not considered in this study.

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Appendix A

Written Informed Consent Form

Teachers' Perceptions and Challenges of Implementing Updated Curriculum Reform in a Secondary School in Central Kazakhstan.

Description. You are invited to participate in a research study on exploring the teachers' perceptions and challenges of implementing updated curriculum reform in a secondary school in Central Kazakhstan.

Procedures. You will be asked to participate in the face-to-face interviews which will be recorded on the audio with further transcription. This interview will take approximately 45 minutes to complete.

Risks. The potential risks associated with this study are minimal. You may feel stressed and uncomfortable to answer the questions, but it is within your right to refuse being interviewed. The feedback provided by you regarding the new educational reform, its benefits and challenges will not be used to make judgments about the school. Your decision whether or not to participate in this study will not affect your: employment, and career.

Benefits. The benefit which may reasonably be expected to result from this study is that you will have the opportunity to reflect on your own practice in implementing the new educational reform, which can be taken into consideration by policy-makers in order to improve its efficacy.

Compensation. No tangible compensation will be given. A copy of the research results will be available at the conclusion of the study in the repository of the Nazarbayev University. The results of this research study may be presented at scientific or professional meetings or published in scientific journals.

Confidentiality & Privacy. Any information that is obtained during this study will be kept confidential to the fullest extent possible. The research site will not be indicated in the study and all the names of the participants will be changed to pseudonyms throughout the study. The researcher will save all the interview data on a solid drive, which will be stored in a secure place and after the study finishes the researcher will destroy it. All efforts, within reason, will be made to keep your personal information in your research record confidential but total confidentiality cannot be guaranteed.

Voluntary Nature of the Study. Participation in this study is strictly voluntary, and if agreement to participation is given, it can be withdrawn at any time.

Points of Contact. It is understood that should any questions or comments arise regarding this project, or a research related injury is received, the Principal Investigator, Dr. Filiz Polat, +7(777)3264358, filiz.polat@nu.edu.kz should be contacted. Any other questions or concerns may be addressed to the Nazarbayev University Institutional Research Ethics Committee, resethics@nu.edu.kz.

Statement of Consent.

I, _____,

Give my voluntary consent to participate in this study.

The researchers clearly explained to me the background information and objectives of the study and what my participation in this study involves.

I understand that my participation in this study is voluntary. I can at any time and without giving any reasons withdraw my consent, and this will not have any negative consequences for myself.

I understand that the information collected during this study will be treated confidentially.

Signature: _____ Date: _____

Researcher:

Signed_____ Date_____

Appendix B

Questions for semi-structured interviews

Title: Teachers' Perceptions and Challenges of Implementing Updated Curriculum Reform in a Secondary School in Central Kazakhstan.

1. Ask the interviewee to read carefully and sign the consent form.
2. Ask the interviewee's permission to use the tape recorder.
3. Test the tape recorder.

General questions:

1. What subject do you teach?
2. How many years of teaching experience do you have?
3. How many years have you been working in this organization?

Main questions:

1. What is the purpose of the updated curriculum reform? Do you think there was a need for it?
2. What do you think are the key features of this reform?
3. What are the benefits and drawbacks of this reform for teachers?
4. Do you think that this by this reform students develop 21st century skills such as critical thinking, collaboration, communication, creativity? If so, how?
5. What challenges did you experience in introducing this reform?
6. Was the transition process to the updated curriculum reform too fast?
7. Which part of the reform did you like the most?
8. Which part of the reform did you like the least?
9. What kind of support did you get in implementing this reform?
10. Do you have enough materials and resources to plan your lessons?
11. How has the way you teach lessons changed?
12. Have you participated in preparatory courses for this reform? If so, how useful were they?

13. Do you feel overloaded because of the new reform? Do you have enough time to prepare for lessons?
14. Do you think there is a need to differentiate your instructions and tasks?
15. Do you differentiate instructions and tasks during lessons?
16. How do you feel about the new grading system?
17. Are formative and summative assessments effective ways in determining student knowledge?
18. What would you suggest to improve the current school system?
19. What else do you want to share from your experience?