

Per capita funding instrument for subsidizing inclusive education in Kazakhstan

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Executive summary

This study critically examines Kazakhstan's current financing model for inclusive education, identifying gaps and potential improvements from practitioners' perspectives. It explores the literature on Kazakhstan's inclusive education, historical context, reform efforts, and international experiences. It notes that the number of children needing special tutors is rising and more collaboration between government, schools, NGOs, and society is needed. When the children, families, communities, authorities, and practitioners are all engaged and work together they can provide the best possible educational resources (Cox-Petersen, A., 2010). The paper explains the per capita funding model which was developed in collaboration with UNICEF in 2013 and explores practitioners' perspectives on it and how, if at all, it was implemented in schools. This model strives to increase accessibility, social inclusivity, and budget efficiency. Our research problem is that the literature on per capita funding for children with SEN does not include the practitioners' feedback. The research questions focus on those who implement this instrument and see it in practice. From the practitioner's perspective, how is this instrument working? How, if at all, should it be improved? The mixed method methodology is used in our work, including self-completion surveys among school administrators, teachers, and inclusive education tutors, and interviews.

The study examines practitioners' perspectives on the per capita funding model's effectiveness. It also gives policy recommendations for improving the system of funding inclusive education. It argues that because the instrument is implemented in the whole educational system of Kazakhstan, developing the instrument can affect the whole system's level of transparency and effectiveness.

Research is made using mixed methods approach providing quantitative angle through close ended question of the survey and a correlation analysis of the results and a qualitative approach through open ended questions of the survey and in-depth interviews.

There were 121+ schools and 53 teachers contacted directly, but due to limitations concerning sensitivity of the topic the research has resulted in 26 survey responses and 6 in-depth interviews from at least 8 schools from 7 different cities.

Findings show varied implementation stages, with no unified progress nationwide and several challenges identified by practitioners. Key research findings do not directly prove the effectiveness or ineffectiveness of the instrument, as it is rated by 6.4 out of 10 by practitioners. Many of the respondents find it inefficient in one way or the other. Findings also highlight significant regional disparities in application, with 36.6% of respondents reporting they are either in the early stages or have not begun implementation even six years after the model's introduction. Lack of standardization and unified progress further hinders effective implementation. Rural areas, in particular, face additional obstacles in accessing resources and implementing inclusive practices. Budgetary concerns are also evident, with reports of inconsistencies in fund allocation and a formula that fails to account for fixed costs like utilities and maintenance. Tutors, who are crucial for supporting students with special educational needs (SEN), face uniform pay structures that fail to reflect varying workloads, which discourages staff and impacts the quality of support. Transparency and accountability issues are prevalent, as the budgeting process lacks clarity, and there is insufficient monitoring of fund usage. The absence of standardized progress tracking further contributes to uneven implementation and accountability gaps.

Despite these challenges, some respondents noted the potential of the PCF model to enhance resources for all students and raise awareness about the importance of inclusive education.

Policy recommendations have included following suggestions:

- Standardize approaches and provide training for practitioners using the instrument for SEN children.
- Simplification and transparency of the budgeting process. As the findings has stated that the complexity of the budgeting process can cause barriers for schools in receiving the budget allocated
- Research clearly states that the instrument needs improvement and recommendation is to analyze existing instrument variations to improve current formula
- Given that this instrument was implemented 6 years ago and 36,6% of the respondents stated that they are still at the early stage of the implementation or haven't started the process of implementation at all this may signal of a problem as there in no unified progress across the country. Recommendation is to implement project tracking when implementing instruments, as tracking progress is important.

The study identifies several limitations that may influence its results. One limitation is the potential for sampling bias, as the use of the snowball sampling method could exclude less-connected individuals, thereby affecting the representativeness of the sample. Additionally, the sensitive nature of topics such as government funding and inclusive education may have led respondents to withhold critical feedback. Furthermore, despite significant efforts to reach a wide audience, the relatively small sample size limits the generalizability of the findings.

The study concludes that while the instrument has potential there are areas for development to ensure maximum effect of the instrument.

The broader implication of this research is its contribution to the discourse on inclusive education reform in Kazakhstan. Inclusive education is a pressing contemporary issue, with the number of diagnosed SEN children rising annually. The PCF instrument was introduced to address this challenge, yet its implementation demonstrates the need for continuous improvement to fulfill its intended goals. Ultimately, this research seeks to contribute to creating a more equitable and effective education system in Kazakhstan by informing policymakers and practitioners about the challenges and necessary reforms for the PCF instrument. The findings and recommendations aim to contribute to policy discourse and inform decision-making by the Ministry of Education and local authorities. By addressing the identified gaps, Kazakhstan can build a more inclusive, transparent, and effective education system, ultimately benefiting all students and their communities.

Abbreviations

ASD- Autism Spectrum Disorder.

SEN - Special educational needs.

OECD – Organisation for Economic Co-operation and Development.

UNESCO- United Nations Educational, Scientific and Cultural Organization.

UNICEF – United Nations International Children's Emergency Fund.

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Abstract

This study critically evaluates Kazakhstan's per capita funding instrument for inclusive education, designed to allocate funds based on student enrollment to support equitable access for students with special needs. Introduced in 2018 as a pilot program, the instrument has since expanded nationwide; however, gaps remain between policy goals and practice, with challenges around funding adequacy, inconsistent implementation, and varied practitioner perspectives. Using a mixed-methods approach, including surveys and interviews with educational staff, this research identifies critical issues, such as insufficient resources, lack of standardization across regions, and disparities in tutor workloads.

Findings reveal an average effectiveness rating of 6.4 out of 10, underscoring areas for improvement. Administrative staff reported greater challenges with operational implementation compared to school management, highlighting a need for unified training. Major recommendations include separating fixed operational costs from per capita funds, providing differentiated pay for tutors based on workload, and establishing robust monitoring mechanisms. These adjustments aim to improve the instrument's transparency and accountability, ensuring that funds are used effectively to meet inclusive education goals.

Overall, the study emphasizes that while the per capita funding instrument holds potential, substantive reforms are required to align it with Kazakhstan's goals for inclusive education. Implementing these recommendations could bridge policy-practice gaps, fostering a more equitable and effective system for inclusive education funding.

Chapter 1 Introduction

1.1 Problem statement

By 2022, 188,144 children in Kazakhstan had mental disabilities, a 7% increase from the previous year, with nearly 5% of 2022 births diagnosed with developmental disabilities, many undiagnosed in rural areas (Bureau of National Statistics, Number of Children with Disabilities Health and Welfare Statistics 2023) and this proportion is growing every year. Parental ignorance, especially in rural areas, leaves many children undiagnosed and underrepresented. Educating children with special educational needs is a contemporary problem that needs solutions.

Inclusive education ensures all children learn together, regardless of ability, as emphasized by The Salamanca Statement. UNESCO formulated it during the Salamanca Conference on SEN in 1994, it was ratified by 92 countries including Kazakhstan (Miles, S. and Singal N., 2010). The Salamanca Statement shifted focus from segregation to inclusivity for children with disabilities (The UNESCO Salamanca Statement, n.d.). To attend school, they had to undergo special training to meet certain standards (Saloviita, T., 2018). The Statement steered the focus toward a “student-centered pedagogy”, persuading schools to modify their environments to be more inclusive (Saloviita, T., 2018). True inclusive education means granting everyone an equal standard of schooling without any form of discrimination (Inclusive Education, n.d.). Kazakhstan’s Constitution prohibits discrimination based on origin, social status, race, or other factors. (Akorda.kz, n.d.).

Historically, children with disabilities faced discrimination, with teachers more accepting of physical than mental disabilities (Shaikheslyamova A., 2018; Vlast.kz, 2018). Older teachers and males tend to be more unsupportive to improving inclusive education.

The per capita funding instrument was developed in 2013 in collaboration with UNICEF and its main goal is to increase accessibility, social inclusivity, and effectiveness of budget spending of the current educational system in Kazakhstan (UNICEF, 2013). Before the implementation, spending on inclusive education was disproportionately less, implementing a new instrument made the process fairer and motivating for the implementation of inclusivity. In prior system of budgeting the amount paid was different according to the school status, quantity of shifts, class capacity, and availability of specialized classes (UNICEF, 2013). The funding for inclusive education for pupils with special educational needs is complex and costly and it is difficult to contain budgets within agreed limits (Marsh, A.J., 2003). Unequal payment to the schools has resulted in unequal distribution of knowledge quality. The new implemented per capita instrument allocates a budget per person, with different coefficients applicable to typically developing children and children with SEN. Inclusivity in this program was considered for children with health disabilities, mental disabilities, and other special educational needs. In our work, SEN are focused on both health and mental disabilities. Per capita instrument offers a starting point for support, each country decides what version of the formula works best for them. For schools to be able to educate these pupils appropriately, it may be necessary to implement weighted formulas (Peters, S. J., 2004).

The instrument of per capita subsidizing was developed in 2013 (Vlast.kz, 2018). Implementation piloted in Shymkent and Almaty schools, and final implementation throughout the country was planned for 2020. Despite the nationwide implementation there is a limited existing study and literature on assessing this financing instrument from the perspective of professionals who work in the system. Therefore, the research problem is that the literature on per capita funding for children with special educational needs does not include the practitioners' feedback as our goal is to assess the instrument itself and if it needs improvement.

1.2 Research questions of the study

Research questions are: From the practitioners' perspective, how is this instrument working? How, if at all, should it be improved?

Acknowledging the limitations of the instrument from the practitioner's perspective, research can identify the problems that need to be addressed. Their direct experience provides crucial insights into the tool's shortcomings and the areas requiring immediate attention.

1.3 The object, scope and purpose of the study

The object of the study is the per-capita instrument of funding education for children with SEN. The scope of research is the evaluation of this instrument implementation and effectiveness across different schools as rated by the practitioners. The main purpose of the study is to analyze if practitioners find this instrument effective, understand if this instrument needs improvement from their perspective and if yes gather their suggestions and provide policy recommendations.

1.4 The structure of the study

The study is organized into seven chapters, where Chapter 1 (Introduction) provides background of the inclusive education and its financing, purpose of the study and underlines main research objectives. Chapter 2 (Literature review) reviews existing literature on the different variations of the instrument across the countries and challenges both in Kazakhstan and in different countries. Chapter 3 (Methods) describes research instruments used, sample targeted and followed by Chapter 4 (Research findings) which lays out the results of the survey, in-depth interviews and correlation analysis conducted. Final Chapters 6 and 7 (Policy recommendations, Conclusion) provide implication of the research findings, suggestions made on their basis and improvements of the instrument suggested as the outcome of the research.

Chapter 2 Literature review

2.1 Relevant concepts

Educational authorities around the world have developed and implemented a range of funding policies and subsidizing instruments. There is much discussion over funding models that are based on census data versus those that are based on diagnoses. Determining whether funds should be divided based on enrollment or student labels is critical in a per capita financing instrument (Whitley, J., Klan, A., D'Agostino, B., 2020). The main purpose is to provide financial subsidies to schools most effectively, part of which is to address various issues related to inclusive education. In addition to covering operating expenses, funding should go toward enhancing school facilities, educating tutors, and offering sufficient assistance to pupils with SEN (Meijer, C. J. W., & Watkins, A., 2019). These tasks include hiring teachers' assistants (referred to as "tutors" hereafter), providing equipment for children with disabilities, purchasing adaptive materials, redeveloping classrooms, creating new teaching methods, modifying assessment methods, developing the professional skills of staff (Golubeva, L., 2014).

Compared to other similar benchmark countries Kazakhstan doesn't spend enough on its education, which results in several problems in this area (Pons, 2015). The total budget spent on education is rather stable and even when it increases yearly stays relatively the same if counted in % of GDP. Before the per capita funding instrument local government was responsible for allocating the budget to schools according to a whole number of pupils and

other changing criteria, which meant it was a biased decision according to organizations' priority.

Educating SEN pupils costs 2-3 times more, requiring tailored per capita funding for specialized resources, particularly in developing countries facing funding challenges and urban-rural disparities like Kazakhstan (Eleweke, C. J., & Rodda, M., 2002). In 2013 UNICEF and the Ministry of Education of Kazakhstan collaborated on a report on the education system in Kazakhstan. It concluded that per capita funding would be the most applicable and effective instrument for budget spending in Kazakhstan to develop education provision and therefore promote the development of inclusive education (UNICEF, 2013).

Per capita funding allocates budget per student to reduce disparities and improve equity (UNICEF, 2013). Supporters of the policy argue that per capita funding is a transparent and equitable tool to fund inclusive education. The formula is easy to understand and apply and ensure that all schools receive a fair share of funding (UNICEF, 2013). This instrument provides schools with more flexibility in how they use funding. It allows schools to tailor spending of the budget to the specific needs of students, improves the quality of education, requires less administrative regulation, and frees up more resources for direct instruction and other educational activities (Ait Si Mhamed et al., 2023).

Our research problem is that the literature on per capita funding for children with special educational needs does not include the practitioners' feedback. This literature review

analyzes the Kazakhstan instrument in question and examines international experiences with the implementation of similar instruments.

2.2 Kazakhstani context

According to Alonso et al. (2011), Central Asian countries during the 1990's-2000's have experienced major governance reforms because of the Soviet Union collapse. This period was economically hard, and this was when the governments experienced a need for reforms and attempted to develop it into a more democratized market economy and decentralize from the central government, giving educational institutions a chance to be less dependent on the state. Per capita funding has been seen as a more impartial and objective option.

Kazakhstan's per capita funding model is a standard ratio of financing per student for the full period of study, depending on the type of education (pre-school, school, post-secondary education, etc.) to the total labor intensity. Funding for students with SEN is doubled, providing an incentive for schools to implement inclusive education.

According to regulatory acts (<https://adilet.zan.kz/rus/docs/V1700016137>), normative financing is the costs of the educational process in a certain educational environment that considers the following aspects of secondary education:

- Numbers of hours by the Standard Curriculum
- Estimated occupancy of classes by the state compulsory standards (24 students in the city's general education schools; 20 pupils in rural general education schools, in special (correctional) classes – 12 students)

- Standard Teaching Load Per Week (18 hours for secondary education organizations)

2.3 Theoretical background

Per capita financing instrument legislation was approved in 2017 and has been updated 10 times ever since, almost every year and sometimes even twice a year (<https://adilet.zan.kz/rus/docs/V1700016137>). The per capita financing calculator is published on the website of the state financial center (<https://fincenter.kz/>) and includes forms, that schools fill in, that consists of the information about the total number of students including students in general education classes, students with SEN, studying in general education classes, in special (corrective) classes, studying at home and other factors in the context of primary, middle years and graduating classes.

At the same time, the per capita funding instrument provides additional payments to specialists for work in rural areas, for the qualification level of teachers, and for living in an environmental disaster zone or radiation risk zone.

The calculation of the volume of per capita standard basis financing is carried out according to the following formula:

$$N_z = [(E_z + L) * (k_1 + k_2)] + A_1 + A_2 + A_3$$

This formula is a school-level payment of the budget allocated by the government per child. Per capita standard financing of each student is multiplied by the average annual number of pupils. Coefficient **N_z** that represents the financing per student is different for typically

developing pupils and pupils with SEN. The sum sign represents that the amount of per capita normative financing is determined cumulatively, based on standards of financing per student by type. The formula is given in detail in the **Appendix 5**. Overall, the instrument is supposed to give incentives to schools to implement inclusive education and create equal opportunities for children with special educational needs. The per capita funding instrument allows opening schools with fewer students with SEN in the class, as the budget is twice the standard fund.

Omarova T.K. (2016) in her article indicates that today the national mechanism for assessing the development of inclusive education remains underdeveloped. The lack of clear criteria about which educational organization can be considered inclusive has led to inconsistencies in some statistics, there is no unified approach and no clear control from the government. The data is generated based on the information provided by the regional Departments of Education. Schools in the regions independently determine the amount of conditions provided for the inclusion of children with SEN in the education process.

M. Turlubekova and R. Bugubaeva (Turlubekova M., Bugubayeva R., 2021), in their research, indicate that in Kazakhstan, issues related to inclusion are relevant and it is necessary to attract the government and public attention to these problems. They assert that inclusion is a top priority for most countries worldwide and that there is a pressing need to reassess existing conceptual approaches. They emphasize that education authorities must establish clear criteria for evaluating the progress being made in inclusive education and allocate adequate budgetary resources to support effective measures.

Per capita instrument implementation in Kazakhstan is underexplored and can be defined as a gap in the study. The only scholar identified in this research theme is Professor Kasa, along with her co-authors, (Kasa R. et al, 2023) who have offered research initiated and funded by the Ministry of Education, which assessed the impact of per capita school funding in Kazakhstan on improving education for students with SEN. The purpose of their work was to assess existing processes, including admissions and the status quo. The paper offers a comprehensive examination of global literature on inclusive education financing models, combined with an analysis of Kazakhstan's specific experience. The information presented stems from a survey involving approximately 500 principals of secondary schools in urban regions across Kazakhstan. She has found that schools receiving per capita funding are likely to integrate students with SEN into general education classes. The factors that influence enrollment of students with SEN include school selectivity, language of instruction, SEN-related policies, and hiring of specialized staff. Selection process of school admissions negatively impacts enrollment of students with SEN. Kazakh-language schools tend to have fewer students with SEN. Schools that keep students with SEN in homeschooling are less likely to integrate them into mainstream classes. She also noted that teacher professional development, school infrastructure, and autonomy of school principals in decision-making are critical for successful inclusive education within the per capita funding model. (Kasa et al., 2023)

There are debates among academics that schools benefiting from financial support were more inclined to adopt inclusive education practices compared to those without subsidies. These practices encompassed actions like hiring extra teachers, providing professional development for educators, and acquiring adaptive materials (OECD, 2012). Another study

observed that students with disabilities attending subsidized schools were more likely to participate in general education classrooms compared to their counterparts in non-subsidized schools (Conor D., 2015). Nevertheless, it's important to note that not all studies are unanimous in asserting the effectiveness of subsidies in addressing all challenges related to inclusive education. To illustrate, one study indicated that subsidies did not effectively increase the enrollment of students with disabilities in special education classrooms, suggesting that barriers to inclusive education may persist despite financial support (Harry, B., Klingner, J., 2006).

2.4 International instrument varieties

Countries like Serbia, Armenia, and Poland use varied per capita funding policies, from simple to complex formulas. Some models use vouchers to allow parental choice and competition between schools. In Armenia per capita funding was introduced in 1999 under the supervision of the World Bank, the pilot program excluded schools with less than 100 pupils, and at first, was implemented in 136 schools. The instrument was based on the simplest formula with no adjustment factors, total school budget equals per student cost multiplied by the number of students plus fixed costs (maintenance costs) (Alonso et al., 2011). During the trial period, there was an obligatory condition that no budget be lower than the previous year. Implementing the instrument meant exercising financial autonomy, receiving a budget straight from the Ministry of Finance excluding extra layers, and additional education for accountants and headmasters. Schools were allowed to raise funds themselves from extracurricular activities.

Georgia implemented a per capita instrument in 2005, the main aim was to build a transparent system, excluding extra steps while transferring the budget (Alonso et al., 2011). Funding was provided through standardized vouchers per student, with no adjustments apart from only additional transfers in conflict zones (due to reduced safety and migrants) and second - funds for payment increased for the teachers (Alonso et al., 2011). Vouchers are easier when the data is not trustworthy but can be imbalanced because some schools are under or over-funded. The introduction of the voucher system in Georgia also allowed parents to have flexible attachment to any school of their choice (Tabatadze S. and Gorgadze N., 2018). Schools receive a budget per student applied, therefore voucher implementation creates competitive conditions and creates incentives for schools to provide better services. Vouchers are stated to provide equal rights, equal access, and equal distribution of education (Tabatadze S. and Gorgadze N., 2018).

Another example is Estonia where the per capita instrument was implemented in 1998. Payments per student are not differentiated by grade and coefficients are different according to the municipality, corresponding additional coefficients are applied to special needs for home teaching, psychiatry, language integration, prison education, distance learning, etc (Alonso et al., 2011).

Poland introduced this instrument in 2000, it included adjustments according to the level of education, extracurricular activities, boarding specificity, supplement for costly forms of provision, special needs, and need in social therapy, recurrent expenditures subvention, coefficients for school sizes, for SEN, for specialized schools such as music, ballet, art

schools, according to the level of the teacher and experience, the national average salary of every type of the teacher (Alonso et al., 2011). Poland and Estonia represent a more complicated approach, that takes away the independence from schools of distributing their own budget and builds a motivational payment system.

Per capita financing is wide in its variety and complexity, Armenian and Georgian have the simplest and least number of adjustments, it assumes all children in the same grade have the same needs. Some of the critics claim that the introduction of vouchers reinforces existing segregation among social classes (Tabatadze S. and Gorgadze N., 2018). More complicated formulas are seen as the development, second generation. The Kazakhstani model is more like Poland or Estonia in its complexity.

There is evidence that schools receiving financial support may be more likely to adopt inclusive practices, but not all studies agree on the consistency of this outcome. In their investigation, Sharma, U., Forlin, C., and Furlonger, B. (2015) examine different funding models across Australia to identify the most appropriate funding model for inclusive education for students with Autism Spectrum Disorder (ASD). They have found that there's no universal approach to ASD funding and most jurisdictions' funding is based on the level of student needs rather than a specific disability diagnosis. In the report, it is recommended to use a tailored approach to unique student needs and focus on improving student learning outcomes. The authors support school autonomy in decision-making balanced with accountability for student outcomes and stress the importance of investing in teacher training

and development to ensure all instructors know how to support students with special educational needs in inclusive settings.

Goldan, Janka, Loreman, and Lambrecht (2022) discuss the challenging nature of the inclusive education implementation process. They stress that different funding models have unintended consequences. Those include the over-diagnosis of students to get more funding and the possibility of limiting access for students with genuine needs. They underline the importance of resource allocation and stress that a deep understanding of this complex topic is essential for maximizing the effectiveness of inclusive education. Pulkkinen, Räikkönen, Jahnukainen, and Pirttimaa (2020) have found a similar correlation between the type of funding and the possibility of over-diagnosing while studying educational reforms in Finland. In the study, they explore why identification rates vary among municipalities. They have concluded that funding incentivizes either segregated or integrated placement, depending on how the funding is allocated. Authors argue that census-based funding discourages identification of students with SEN.

According to the research by Lazarus, Johnstone, and Lazetic (2012) introduction of the first per capita financing formula in Serbia for inclusive education was determined by analyzing demographic data and current financial records from ten municipalities. The calculation considered both the average cost per student in regular schools and the expenses associated with services for children with SEN. Required minimum service packages for inclusive education were established to cater to the needs of children under 4 categories outlined by

the OECD: disabilities, learning difficulties, disadvantages, and any combination of mentioned factors (Lazarus et al., 2012). The minimum standard expenses for each category were used to determine weights. These weights reflect the comparative costs of delivering the minimum service packages in contrast to the expenses associated with educating a typically developing pupil. Weights were calculated based on the following formula:

Inclusive Education Weight = (Cost of providing Minimal Standards Package for 1 student in a SEN group)/(Average per student cost in Serbia).

Categorizing assumes that each category of special needs includes either additional support specific to the category's needs during school hours, supplementary sessions, or expenses associated with various social and material support, such as receiving clothing or snacks, as part of the services provided in special schools (Lazarus et al., 2012).

Serbia also uses a per capita financing model, but unlike all the above-mentioned examples it is formed from the bottom to the top, starting with the needs of the pupils forming the cost for each category separately for typical children and children with SEN. Whereas all the others have made it top-down, have created the formula for neurotypical pupils and applying a coefficient and how this budget was allocated especially in SEN is questionable.

The research by Dohmen, Dieter (2005) indicated that the per capita financing model in Tajikistan led to inadequate budget allocation. Under the previous approach to budget distribution, many schools, especially smaller ones received larger budgets compared to what they get under the per capita financing scheme. The presented research gives a wide understanding of the existing processes and the implementation of the instrument.

2.5 Conclusion

Main goal of this project is to analyze this instrument and research it from the practitioners' perspective. Every school has an individual approach and different priorities. How the program is implemented, and how inclusivity is developed in schools depends on several factors. While how this instrument is constructed technically, how it could be developed and regulated would affect all the schools and inclusive education in general. Our research problem is that the **literature on per capita funding for children with special educational needs does not include the practitioners' feedback.**

This represents a significant gap in the existing literature concerning the analysis of the instrument from the practitioners' perspectives on the use of this new instrument to subsidize inclusive education. Kazakhstan's per capita instrument is implemented from top to down, is more complex than the examples of Georgia and Armenia and is more similar to the second generation of implementers like Poland. Each country adjusts the instruments according to its needs, creating adjustments that reflect the country's specifics (radiation zone, conflict zone etc.), raising additional funds, and categorizing SEN.

Chapter 3 Methods

3.1 Purpose of the survey

Our research problem is that the **literature on per capita funding for children with special educational needs does not include the practitioners' feedback**. This problem shows that there is a gap in our knowledge of the instrument of subsidizing inclusive education. Inclusive education is an important element within the contemporary education system, striving to make sure that all students have equal access to the same level of quality education regardless of their physical or mental limitations. To shed light on this lack of information the aim was to find out how this tool is rated by practitioners and if it needs further improvement.

Research indicated that even though sufficient funds are allocated for inclusive students, schools have not utilized those resources properly. Special tutors are underpaid, schools are lacking special equipment for students with special needs. The per capita funding mechanism can impact how resources are allocated to individual students, schools, and regions, and should therefore affect the quality of special education.

3.2 Subject of the survey

The unit of observation of our research would be professionals who implement special education in the schools of Kazakhstan. Because our research gives anonymity to the respondents it is impossible to identify the schools and cannot detect which of the

respondents were from the same schools, this is a trade-off for allowing them to express their point of view without fear or bias. The unit of analysis is the per capita instrument. Main stakeholders affected by the instrument would be the state, schools, practitioners, school staff, and pupils.

For the interviews main sites were:

- Public Fund “Innovation of Social Initiatives, Astana” www.fond-isi.kz
- “School-gymnasium No. 65” of the Akimat of the city of Astana
- Public Fund “AQYLSANA”, Karaganda Region
- Rita Kasa, Associate professor, researcher, Latvia
- A teacher from a public school in Aktobe
- Tutor from a public school in Astana

These sites represent both schools and public funds that are actively involved in the development of inclusive education. Interviews with these sites helped to narrow down the topic of the research and informed on the existing problems in the system from their views.

Dr. Kasa examined the influence of the per capita funding instrument on the improvement of inclusive education for pupils with SEN in Kazakhstan. An interview with Rita Kasa suggested that the overall impact of the per capita funding instrument is positive and contributes to the development of inclusive education in Kazakhstan. However, she acknowledges that school management can freely redistribute the budget and does not solely use it for inclusive education purposes.

Research questions are: **How do practitioners assess the quality of this funding instrument? How, if at all, should it be improved?**

3.3 Sample size

The survey targeted teachers, administrators, and tutors from at least 10 public schools nationwide. A minimum of 15 survey responses were anticipated. Interviews of at least 5 practitioners from the field for in-depth interviews were expected. The adequacy of this sample will depend on theoretical saturation, and adjustments to the number of respondents and schools may be made if necessary. If further information is required, those involved in the interviews were planned to be re-approached.

3.4 Data collection instruments

One-to-one interviews and online surveys were used to capture practitioners' perspectives. This triangulation concept is used to enhance the validity of the analysis (Bryman, 2012, p. 392). On any issue there can be more than one view on things, triangulation and more in-depth analysis via interviews create an opportunity to enhance the credibility of our findings (Bryman, 2012, p.390).

To assess how practitioners rate the tool, it is essential to understand how various groups perceive its usage in different educational settings. It is important to consider which aspects of the per capita funding tool are most frequently identified as effective or ineffective based on practitioners' practical experiences. It is also important to anticipate that the perception

of the tool's effectiveness may vary across different regions and levels of school such as primary, secondary, and types of disabilities addressed. Likewise, it is also important to find out if practitioners compare the new instrument to previous funding practices.

The research design incorporates both interviews and surveys to address the research questions. This approach combines primarily qualitative open-ended questions in the surveys and interviews, alongside quantitative descriptive data obtained from the survey's close-ended questions. This allows more robust analysis as each method can compensate limitations of the other. The purpose here is to blend the depth and detail of interviews with the larger number of responses that can be collected through surveys. Data from the survey responses should allow our findings to speak to the Kazakh education context with greater confidence. The largest number of responses was expected to come from surveys.

Surveys targeted school administrators, teachers, and tutors involved in funding implementation. Even though not all people surveyed are actively engaged in the finances of the schools, they might have useful perspectives on whether prospective funding is reasonable or not, and potential reasons for that. Compared to interviews, surveys are easier to conduct and more comfortable for participants to take part in as it is less time-consuming and allows receiving responses from a more geographically spread area that can be distributed in larger quantities simultaneously (Bryman, 2012, p. 231).

For some respondents' online surveys are more convenient in a sense of anonymity and absence of eye contact. Online surveys were conducted via the third-party platform "Google

Forms” ensuring that no information regarding participants’ IP addresses was received or stored. Invitation for participation in the survey was sent via email (Appendix 6) to the recipients with no read receipt to exclude any potential pressure on the participants, as the participation was voluntary. A letter of consent explaining all the details of our work was presented to both survey and interview respondents (Appendix 3). The majority of the survey questions were close ended, for the survey to be not so time-consuming. Open-ended questions at the end of the survey are used to gather more detailed responses, provide an opportunity to give a detailed answer, and make suggestions. Both governmental budgets and children with disabilities are sensitive topics, so our survey allows withdrawing at any point respondents feel uncomfortable. In surveys there is no opportunity to ask additional questions or elaborate on some topics (Bryman, 2012, p. 231), this is where one-to-one interviews step in.

In this case, a semi-structured interview was used, allowing interviewees to explain their points of view in detail and providing flexibility in the structure of the interview, including the opportunity to ask additional clarifying questions (Appendix 2) (Bryman, 2012, p. 468-471).

The researcher prepares a list of questions or topics for discussion, known as an interview guide. However, the person being interviewed has freedom in how they choose to respond. Interviews were conducted primarily online for flexibility and participants' convenience, providing an opportunity to overcome geographical barriers. Coding is used for organizing and interpreting data. In the coding process, main concepts are identified, labeled, organized,

and patterns are recognized. In the first round of coding, the focus is on identifying the most basic themes and patterns in the in-depth interview responses. Once recurring patterns and themes are identified across the initial codes, deeper insights are uncovered by connecting the dots.

The analysis focuses on identifying commonalities in practitioners' perceptions of:

- Tool's quality assessment
- Barriers and challenges to implementation
- Suggestions for improvement

Layers of coding are introduced to enhance depth and organization in the analysis.

Example:

- Main category: quality assessment
- Sub-Category: outcomes.
- Codes: high quality of the instrument, average quality, lower than average quality

Although a random sampling method is preferred, snowball sampling enables the collection of data on a topic where the literature is lacking. This approach facilitated interviews with a diverse group of individuals involved in the subsidizing process of special education.

3.5 Limitations

Snowball sampling may introduce bias as participants recommend similar peers. For this reason, the results may not be fully representative and might be biased. The risk of inaccuracies associated with this approach is recognized.

Before starting our research, a small pilot study was conducted to determine how well the research tools work. Our surveys were piloted among our peers and some of the practitioners from our sites to ensure our questions in the survey and interview were clear and coherent (Bryman, 2012, p.263-264).

Schools had no incentive to take part in our research, the initial plan was to get at least 15 proper respondents and contact at least 2-3 times more schools. Most of the responses would be conducted online.

Chapter 4 Research findings

4.1 Scope of research

First, to understand the amount of the work done and the context of the research it is important to know that this survey was spread among 121+ schools. As it was planned, spreading started via a purposive approach, first contacting 53 teachers, tutors, and administrative staff already known, and acquainted during preliminary research then we proceeded with snowball sampling and asked respondents to distribute it among people they know that might be helpful to the research. They resent them in school groups, but still, the response was low. Then practitioners through governmental agencies whose work coincided with inclusivity were contacted asking to participate and help to distribute. As a final attempt, 121 schools were directly contacted via email with a request to participate. All these attempts resulted in only 26 replies from practitioners, and two practitioners went through a link and further declined to continue. The response rate was low as it was expected in the Methodology section, but the actual received rate was higher than expected.

Table 4-1 How long ago did your school implement the per-capita funding instrument?

<i>How long ago did your school implement the per-capita funding instrument?</i>	<i>Count</i>
Not Implemented	6
It was implemented this year	5
1-3 years	10
4+ years	4
<u>Grand Total</u>	<u>25</u>

The institutional voice problems were predicted correctly among school staff, first of all because it is a question of governmental funding which is a sensitive topic, survey participants were informed in every way that all surveys are anonymous and will not include questions about the actual money or its spending.

Another issue was that the questions regarding the effectiveness of the instrument were partially confused by the respondents with a general assessment of inclusivity in schools, which became evident in the responses to the open-ended questions.

Chart 4-1 What type of school do you work in?

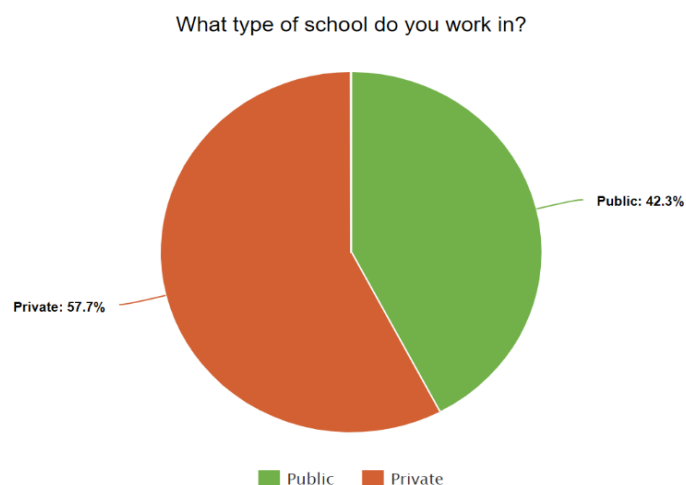
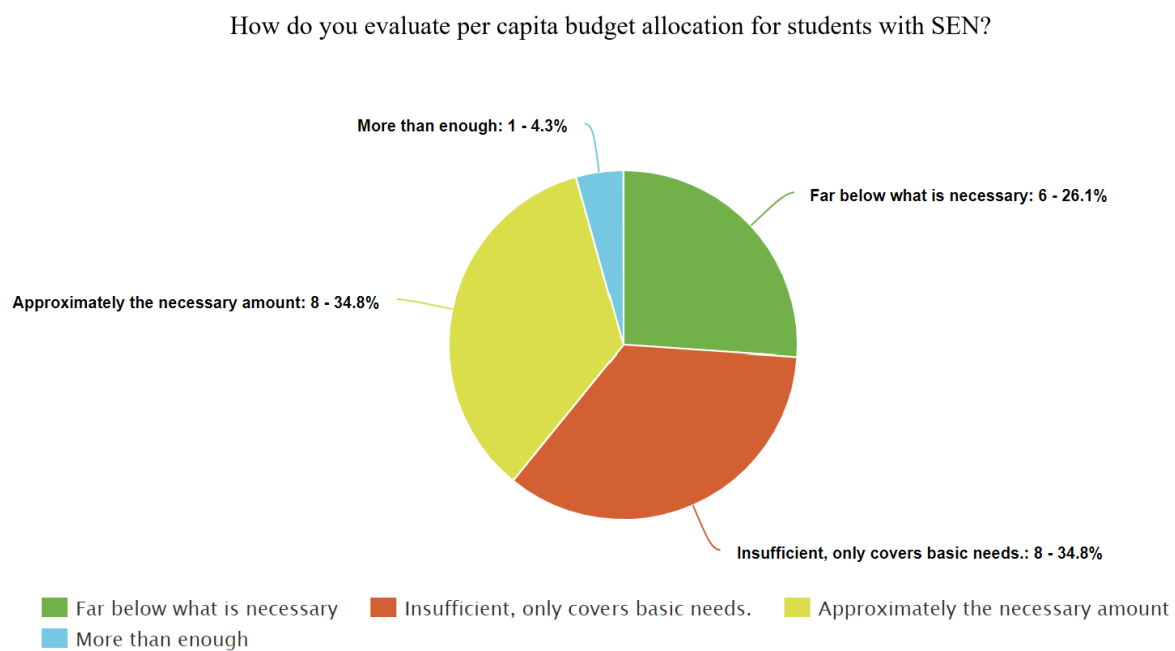


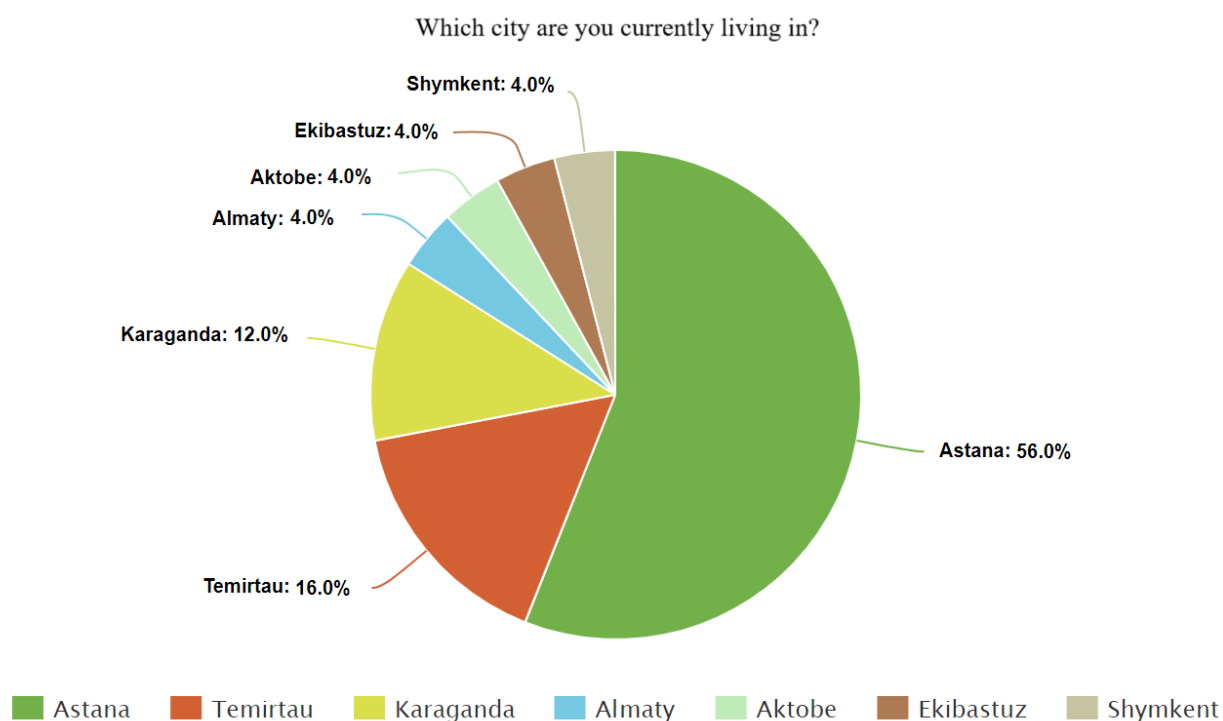
Chart 1 (26 responses)

Chart 4-2 How do you evaluate per capita budget allocation for students with SEN?(23 responses)



Nevertheless, all of the attempts have resulted in a variation of schools by type, stage of implementation, administrative staff, and geography, as seen in Table 1 and charts 1,2,3,4. Responses included such cities as Astana, Karaganda, Temirtau, Almaty, Ekibastuz, Shymkent, Aktobe, both private and public schools, and both administrative staff and school management. Although the exact number of participating schools is not known, the mix and other indicators led us to believe that at least 8 schools responded. Survey results capture more teachers' and administrative staff perspectives than those of the management.

Chart 4-3 Which city are you currently living in? (25 responses)



Research questions are: **How do practitioners assess the quality of this funding instrument? How, if at all, should it be improved?**

4.2 Interview results

As a part of the research, the first four interviews were gathered to understand the context of this topic, which included a Public Fund “Innovation of Social Initiatives, Astana”, Public Fund “AQYLSANA” from Karaganda Region, “School-gymnasium No. 65” of Astana, and Rita Kasa, a researcher from Latvia. These interviews were informational and did not include any private information, they were about a general understanding of the instrument, the inclusivity state in Kazakhstan, and previous research of Mrs. Turlybekova and Professor Kasa.

These interviews were conducted among four various experts who each represented their seeing of the topic. The main findings of these interviews are:

- Founder of Public Fund “Innovation of Social Initiatives” in Astana assumed that if there is no obligatory rule of providing a tutor to children with SEN there will be no additional funding provided, while current funding she saw as insufficient.
- Founder of a private correctional center for children with autism and a public fund concerning the education of children with SEN in Karaganda believes that the System of diagnostics and certifying special needs is ineffective and is a potential ground for corruption. She underlines advocacy as the most urgent matter in inclusivity, which is not only about informing society but most importantly informing parents and promoting early diagnostics. The problem with the funding instrument she claims is

that in the process of getting the money to the schools, money is allocated on the governmental level nominally in the regions, but not distributed further. Each year regions underspend millions of tenge allocated on inclusivity.

- An accountant from Astana assumed money allocated on inclusive children based on this instrument is spent on general needs of schools. She claims that the system is not tailored enough to individualize payments according to the children's educational needs resulting in laybacks in tutorship. "Turnover of tutors, yes, lack of personnel, because they do not have an adapted payment system, yes, depending on the complexity of the child, yes, and depending on the fact that this entire labor activity of the tutors is simply completely devalued, physically hard work in itself," she says.
- An Associate professor and author of many publications on inclusivity underlined that wherever the allocated money goes inclusive children still share the effect of it. "But then again, we need to think about inclusive education, in the context of whole school improvement. The child in inclusive education model studies in a classroom. So, whatever the dynamics in the classroom affects the child as well". She agrees that the current formula doesn't range the disabilities and doesn't take into account all nuances, but if it needs to be an arguable question that needs to be additionally researched.

Additionally, 2 interviews were conducted with practitioners afterwards according to the protocol which was stated in the Methods section. Our interviewees were a teacher from Aktobe and a tutor from Astana public school.

Main findings from additional interviews:

- The interview with the teacher from Aktobe has given us a perspective that corresponds with our literature review, stating that some teachers in rural areas might think that segregated education is preferable and do not see the positive effect of inclusive education. This doesn't tell about the quality of the instrument, but as a general concern might help understand the unwillingness to participate in the survey or even affect the implementation of the instrument. Also, the responses have shown that at the level of practitioners, understanding is limited to what is heard about something bought on per capita funding but have no understanding of the instrument.
- The tutor from a public school in Astana stated that the funds allocated for inclusive children are mainly spent on general needs. The tutor was asked to quantify and rate the assessment, as in our survey, her subjective opinion of the instrument was 3 out of 10. According to her answer, the funding is insufficient, and while educational programs for teachers are available, they remain the same each year and are not tailored to specific needs.

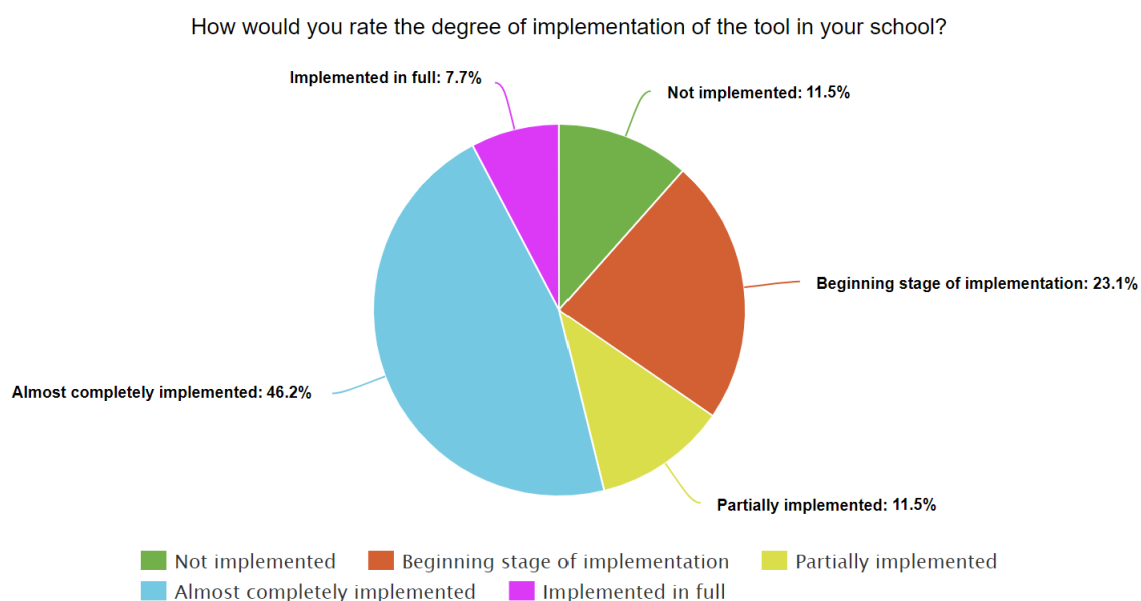
4.3 Survey results

The main research findings from the survey would be the fact that the effectiveness of this tool on a scale of 1 to 10 is rated by practitioners on average 6.4. The rating was based on 22 practitioners from 8 schools across 7 cities. The rate is not extremely high or low, showing there is room for improvement. Another point to consider here is whether this level of effectiveness is enough considering the budget spent on its implementation and the years

already this system has been working. 60,9% of the respondents have assessed their funding as insufficient or far below what is needed.

Even though the instrument was implemented in Astana in 2018 and all over Kazakhstan in 2020 the survey results show that 11.5% of the respondents assess their stage as not implemented and 23.1% as the beginning stage of the implementation of the instrument.

Chart 4-4 How would you rate the degree of implementation of the tool in your school?(26 responses)



Of 26 responses, 19% saw no change, 30% noted new equipment, and 15% reported more tutors, highlighting inconsistent results. Benefits received by schools might be areas for development to achieve uniform results.

Respondents have stated the following related problems experienced while using and implementing this tool:

Problems with funding:

- Not enough funds
- Low wages and no indexation

General problems:

- The children are receiving little knowledge, and besides education, they need physical therapy and other types of support
- More training needed
- Limited opportunities for students with SEN to participate in extracurricular activities
- Low preparedness to effectively utilize the tool to improve the school experience for students

According to the responses, the main problems are insufficient funds (including not enough therapy, and low salaries) and insufficient preparational or educational basis of the instrument.

The next open question is if this instrument needs improvement, and what would respondents suggest. Some of the responses were generalized to a whole system of education and inclusivity. Still, it is important to mention that 5 responses out of 17 which is 29% said there was nothing to improve. Some of the general comments were about the quality of inclusive education, the systematization of the process, the increase in funding, additional training, and the attraction of more specialists.

The most deserving of attention are two comments that suggest specifically about the instrument:

- “I believe that the payment structure needs to be thought through, including the salaries of specialists. Adapting one child with SEN requires the work of many instructors. In addition to teachers, there is a teacher assistant, a speech therapist, etc., but the amount allocated for one child cannot fully cover the teachers' salaries. We might need to increase the payment amount.”
- “A part of a school’s expenses doesn’t depend on the number of students. A mixed system is needed to cover basic needs like electricity, heating, water, etc., regardless of the number of students, and then a per-student funding could be added on top.”

A suggestion of taking basic costs outside of per capita funding as it is unavoidable and does not depend on the number of children is practiced in Armenia and, as was previously mentioned in our Literature review according to Alonso et al. (2011). Another example of such an approach would be Serbia (Lazarus et al., 2012) that have stated a formula per person, but has an additional surcharge for standard expenses for children with SEN instead of a coefficient, covering all additional extracurricular expenses such as tutors, materials, and equipment. But as Harry and Klinger (2006) stated subsidies alone do not increase inclusivity, the similar Armenian experience illustrates that apart from a simple formula and subsidies, they provide required additional training above all.

As a part of our analysis, the word cloud in INVIVO application was created based on all our interviews to understand the main patterns and if there were some new trends that haven’t

been recognized. Cloud has reinstated the main patterns that confirm our survey findings that funding, and the amount of the budget allocated are the urgent problems our practitioners and experts mention.

4.4 Correlation analysis

Additionally, a correlation analysis was done (Appendix 9) that has led to the following conclusions:

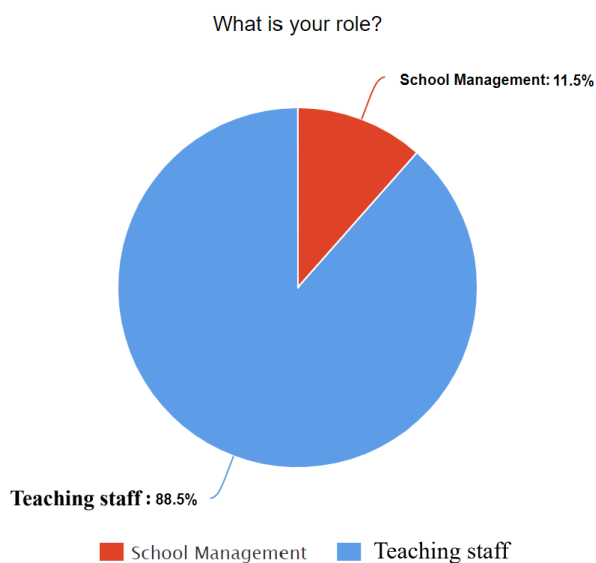
1. There is a medium negative correlation between the evaluation of per capita budget allocations for students with inclusive education and the opinion that the tool needs improvement. This means those who think that the allocated budget is not sufficient also believe that the tool needs improvement. This correlation is logical, but still confirms the validity of survey results and the instrument, as it demonstrates answering in a similar way to related questions from a different angle.
2. There is a strong positive correlation between problems occurring during implementation and the need for improvement of the tool. This is straightforward.
3. There is a medium positive correlation between participants' need for improvement and participant work positions. Meaning that teaching and administrative staff have encountered more issues with implementation than management. This might be explained by a greater level of understanding of the instrument itself by the management, and by the institutional voice management is trying to protect their institution.
4. Correlations between willingness to participate in the interview and the problems encountered were positive, meaning those who have experienced bigger problems in implementing the tool have more interest in participating in in-depth interviews. This

might signalize a possibility of bias in the results of interviews, overrepresenting negative experiences and a need for a more balanced representation in the interviews.

4.5 Conclusion

All the information gathered on Kazakhstan via interviews and surveys gives an impression of fragmentation across the country. Different stages of development across the country are not necessarily bad, but considering that the implementation started 6 years ago, and some regions say that they still need to start, it signals a possible problem. Negotiations before our interviews and surveys have shown that there is a lack of a clear vocabulary and understanding of what inclusive education is about, a unified known system that is transparent and clear. The main goal and advantage of the system are claimed to be the independence that is given to the schools (Kasa, 2023) and the freedom to allocate budgets on their own and according to their priorities.

Chart 4-5 What is your role? (26 responses)



Chapter 5 Discussion

The instrument aims to enhance inclusive education quality and accessibility, assessed by schools' experiences. The practitioners were asked if this instrument was able to resolve issues and if it needed improvement. According to the interviews of the practitioners, there is a lack of control on how the money is spent. Funding is easier to apply and receive, but the quality of how the budget of the pupils with SEN is spent remains dependent on the priorities of the school. Which is an arguable question, if this affects their quality of education or not.

Administrative staff face more operational issues, leading to lower evaluations than management. Management has a stronger institutional voice and urge to protect the interests of their employer. Differences in roles may explain varied evaluations between administrative staff and management. School management might also have more adequate training on per capita funding instrument and therefore higher level of understanding.

5.1 Suggestions from the respondents

There were some suggestions during our research that were important to consider:

- Setting fixed costs aside, because there are expenses that are irrevocable such as utilities or building repairs that must be paid regardless of how many children there are in school. Whereas the number of children is not always something schools might influence.

Another proposition that will need further research is claimed by the founder of a public fund in Astana, and states that there is not enough documentation and legal confirmation of tutorship. She assumes that obligating schools to individual tutors for pupils with SEN will

then force budgeting departments to take these expenses into account when planning children's needs and might result in setting tutor budgets apart from the existing per capita financing.

- There might be a weak dependence between the quality of inclusive education and the implementation of the instrument. Increased budget and lack of control of the spending from the government could create perverse incentives among schools to spend it where they subjectively think funds are needed the most. The rate of implementation of inclusive education might be increased because of the implementation of this instrument, but the effect on inclusive education is arguable. According to Professor Kasa's interview, it still benefits pupils with SEN but needs to be researched further.

- Research has demonstrated a possible lack of awareness or accessibility in the regions and in private schools. Karaganda's public fund site in the interview raised the question of the lack of this subsidizing instrument in the region.

- Existing instruments are not motivating for practitioners. An interview with an accountant from Astana has shown that there is a lack of motivation and one of the reasons is that tutors' payment is not ranked. Children with disabilities are different, some just need assistance, some need physical help, and some might even need to be carried. Tutors are not differentiated in pay, even though their work is different according to what child they assist.

- Lack of funds constantly appears throughout our research as a matter for development. Example of a solution is Armenia from literature review, where schools were given the

opportunity to raise funds themselves from extracurricular activities. This could be a partial solution for Kazakhstani schools as well both for general and inclusive education.

- There is a pattern that needs to be further researched, as approximately 60% of the respondents assess this instrument as underfunded and the same around 60% assessed themselves as implementing this instrument at different stages. It is impossible to say if these are the same respondents, it needs to be seen on a bigger scale, but if they are it means their opinion weighs more as they have worked within these instruments. In this case, the issues represented in this research might have a bigger influence. All these findings underscore the need for an improvement, but it is arguable if this is connected with the instrument itself or an overall state of inclusive education.

5.2 Findings

There is no clear signal if this instrument is effective or not effective otherwise.

The correlation analysis finding is that there is a medium positive correlation between participants' need for improvement and their work position can indicate several possible factors. Possibly they had different understanding and exposure to school issues. Also, it indicates that teaching and administrative staff have different levels of involvement in problem-solving. Teaching staff might be more engaged in day-to-day problem solving whereas management is less directly involved in it.

There is a lack of systematization and unification of the process across the country. Survey results have shown that all of the cities and respondents were at different stages of implementation. Interview with the accountant and analysis of the instrument itself has

shown us that the instrument especially in the inclusive aspect lacks systematization and personalization. There is no division into varieties of SEN.

5.3 Recommendations

Recommendations would be implementing change management principles, project management trackers, conducting budget and market research analysis to assess the appropriateness of the existing budget provided and different variations of the instruments, such as extracting unavoidable costs such as utilities for instance as a separate payment aside from per capita funding.

In the contemporary world, it is not enough to tell employees to do something, it requires additional planning on how change happens, why it happens, and what needs to be done to make it more welcomed. Any changes before implementation need to be planned in a sense of how they should be measured, and how this change should be motivated and rewarded (Murthy, 2007). Unfortunately, this is exactly what the per-capita instrument lacks, as it might be seen in our findings section where there is no tracking of the changes across the country and no systematization, as now six years later some regions are still far behind and didn't even start the implementation. One of the most commonly used methods to prepare for a people-oriented change is training, this training not only provides common knowledge for the participants, but also its goal is to align understanding of the change (Goncalves, 2018). Managers who are going to be active sponsors of the change within their unit need to understand the purpose of the change implemented and need to be agents of change (Goncalves, 2018). In this case, the status quo lacks this preparatory stage.

5.4 Limitations

Institutional voice - spending the governmental budget correctly is a sensitive topic, and attitude towards children with disabilities is even more sensitive. Respondents feel their moral and legislative responsibility for every word they say and might not be honest enough. But the goal of our research is not to fight or uncover corruption, but to assess the instrument for budget allocation and increasing the quality of the services provided.

Snowball sampling- limitations in the process of accessing the per capita funding instrument as participants of the survey tend to refer to individuals with similar characteristics including sampling bias and a lack of representativeness. Additionally, there can be confidentiality concerns, and the engaging respondents process may be time-consuming.

Sample size- The sample size limitation in this research could be influenced by the sensitivity of the field, which encompasses topics such as inclusivity, children with SEN, and financial aspects. Additionally, the specificity of the research theme constrained the number of potential respondents. The institutional context also posed challenges, as some respondents may have been hesitant to share extensive and detailed information. This limitation affected the ability to gather a sufficiently large and in-depth dataset during face-to-face interviews, which is crucial for thoroughly addressing the research question and uncovering new insights.

Chapter 6 Policy recommendations:

6.1 Recommendations for the Government

The main policy recommendation is that before giving freedom and independence in the allocation of the budget, the general concept of inclusivity in the Kazakhstani system of education should be standardized and general training should be included as part of the instrument. This is backed by Omarova (2016) and Turlybekova and Bugubayeva (2021) whose research stated that there is no unified approach, clear criteria, and adequate budget. The preparatory stage was not addressed enough before implementing the instrument.

Starting implementation by establishing a sense of urgency among users, explaining the instrument itself and the need for it. So that all participants in the process are at the same level of understanding and have the same vocabulary. There is an overall need in increasing awareness among the practitioners, particularly targeting rural areas to promote not only unified understanding and vocabulary, but also early diagnosing and support of the inclusive system and children with SEN.

Another suggestion would be implementing project trackers so that each stage would be implemented under supervision after piloting and approval. As the instrument was implemented and piloted in Astana 6 years ago and still most of the school respondents were at different points of implementation while some didn't even start, tracking the progress across the country is recommended.

Survey results have shown us a concern about insufficient funding among practitioners. They have suggested implementing a different variation of the instrument. For instance, extracting unavoidable costs such as utilities as a separate payment aside from per capita funding. The policy recommendation here would be to analyze the market and provide a budget, consider possibilities of improving the instrument formula.

Successful examples of per capita instrument implementation in Armenia and Georgia have underlined the necessity of straight financing from the ministry to schools, excluding non-necessary extra steps. One of the respondents to an interview has also stated that some of the money does not reach the school recipients in inclusive education due to the complexity of the funding process. The recommendation would be to review the existing funding process and see if it can be simplified.

6.2 Recommendations for further research

To further develop this research in the future, it would be suggested to implement a focus group method as a common platform for practitioners to discuss the instrument. Finalizing step would be to suggest a comparison analysis of existing types of the instrument mentioned in our literature review to define the most appropriate. If there was a chance to re-do the research an increase in respondents would be a positive change, but acknowledging our limitations, the responses received in a limited period are still better than it was expected. Another improvement would be analyzing the amount of the budget allocated to schools and

comparing it to the spending, which obviously would be a more sensitive question to conduct.

Chapter 7 Conclusion

The per capita financing instrument was first introduced in 2013 by UNICEF in Kazakhstan, the implementation stage started in 2018. It was first piloted in educational institutions of large cities and later applied to regional schools. Main interest of this research is in how this instrument is working and if at all it should be improved. It is acknowledged that the current literature lacks the perspective of practitioners, which may be different from the perspective of the school top management or governmental officials.

The main research finding from the survey indicates that effectiveness of this tool, on a scale of 1 to 10, is rated by practitioners as an average of 6.4. This rating was based on the response of 26 practitioners. This result partially answers our research question of how the instrument is working according to the practitioner's perspective. The overall ranking is neither high nor low.

According to our work there are several main problematic areas have been identified on the basis of our qualitative research:

1. There is a lack of understanding of the instrument among the administrative staff, while public fund officials and accountants have shown higher expertise. Literature review and the interviews have shown that there is no general understanding and common vocabulary of inclusive education. This all should be a part of the preparatory stage before implementing the instrument.

2. There is no ranking of the types of disabilities, while there is certainly a difference of what is needed for children with at least mental and physical special needs. Children with special needs can be different, for example, there are children with hearing loss, but who can move around independently, as well as there are children who need additional constant physical assistance etc. However, the tutor's work is paid without taking into consideration the variety of their diagnoses. Accordingly, the level of physical labor of the tutor is not considered when allocating the budget by per capita financing. This would be a matter for further research. Another problem in the field of inclusive education is the lack of tutors. Tutor is one of the main actors in the process of teaching a child with SEN.

3. Funding - research has stated several problems in this aspect: lack of funding, complexity of the structure of budget allocation and not intended use of the budget. Both interviews and surveys have acknowledged the lack of the funding, but an interview with a public fund from Karaganda has stated that a possible reason for that might be not the absence of the funds but rather the process when the funds are allocated but do not reach the schools. Another issue stated by several interviews was that allocation of the budget intended for inclusive education was spent uncontrollably on general needs. A different positive view that gave a different angle to our research would be an interview by Professor Kasa that proposed a thought that inclusive children's budget even when spent on other things still benefits all children including those with special needs. Everything that is done for the school affects everybody in the schools even if it's not implemented only for pupils with SEN.

4. Another problem mentioned by our sites was the lack of control of budget spending. The government sends the money but does not control where it goes within the school. The latest State Program for the Development of Education and Science of the

Republic of Kazakhstan for 2020 - 2025 has identified 11 priority tasks, among which there is no task to create a mechanism to monitor the fulfillment and increase transparency of allocated budget funds (Adilet, 2019). On the other hand, one of the causes to implement this instrument was to give freedom to the schools in the decision-making process. Therefore, our recommendation would be to develop and implement a system within the per capita financing instrument, that would lead to increased transparency, improved accountability, and would show weak places in an inclusive education system where additional funding is needed.

Limitations that could occur during the research process were identified. Research methods were used to improve the validity of the information and to answer how this tool is rated and whether it needs improvement.

Inclusive education is an urgent contemporary issue. Rates of diagnosed children rise every year in Kazakhstan. Current system education does not solve current problems, which was why this instrument of per-capita instrument was developed in cooperation with UNICEF and implemented. But according to our sites the instrument still needs further development. Existing instruments should not only allocate the state budget among schools, provide funding for inclusive education, and ensure same quality of the education for all the children with no exceptions but also motivate typical children, parents, educational authorities, and school personnel to be integrated into the process of socializing children with disabilities. Through surveys and interviews it has gained an understanding of how well this instrument is working now and if it can be developed. This instrument is common across Kazakhstan's

educational system and our work's final goal is to contribute to the development of the inclusive education system in Kazakhstan by improving the instrument.

The results of the research are planned to be submitted to the Ministry of Education of the Republic of Kazakhstan with the hope that they will show interest and consider the findings.

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Chat GPT	spelling and grammar check	minor adjustments to grammar and spelling
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Appendix 1: Survey protocol

Dear respondent!

Thank you very much for your time and taking part in our survey.

We are MPA students of Nazarbayev University. This survey is a part of our Masters project. Main goal of our research is to explore the practitioners' feedback on per capita instrument for inclusive education.

Our survey is voluntary, you can withdraw at any point if you feel like it. All the information received will be kept anonymous for your convenience.

1. What is your role? Please tick the appropriate answer or write your own answer in an "Other" graph.

- School teacher
- Accountant
- School director
- Teacher Assistant
- Other _____

2. How long has the instrument of per capita funding been implemented in your school?

Please tick the appropriate answer

- Not Implemented
- Just implemented this year.

- 1-3 years
- 4+ years

3. How would you assess the rate of implementation of the instrument in your school?

Please tick the appropriate answer

- Not Implemented
- Initial stage of implementation
- Partially implemented
- Almost fully implemented, still there is work to be done.
- Fully implemented

4. How do you assess the per-capita budget incoming for inclusive education pupils?

- Much more than what is needed
- More than what is needed
- Approximately the right amount
- Not enough, covers only basic needs
- Far below what is needed

5. Given the stage of implementation of the program, please comment on changes your school has experienced? Please tick the answer you find most appropriate. You can choose more than one. (Skipped if not implemented in question 3)

- More Tutors
- Additional educational training for the teachers

- New equipment for inclusive teaching
- New subjects introduced
- No changes
- Other

6. How do you rate this instrument's effectiveness from 1 to 10, where 10 represents the most effective, and 1 represents the least effective. Can you briefly describe your evaluation?

1 2 3 4 5 6 7 8 9 10

7. What problems, if any, did you experience when implementing/using this instrument?

8. Do you think this instrument needs improvement and if yes, then what would you suggest?

9. Would you be willing to offer an interview in person? Please tick the right answer.

Yes	No	Maybe, please contact to discuss
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If **“YES”** or **“MAYBE”** please leave your contact details

Please let us know if you can recommend someone who will be willing to take part in our survey.

Survey is almost finished, please remember the following identifiers will be removed from the published information. We will not be identifying your particular school in the analysis.

Where are you from, oblast/city/town/village?

What type of school, private/public?

Thank you very much for your time!

Your opinion matters to us. Please do not hesitate, if you ever wish to contact us.

Our contact details:

E-mail:

Whatsapp:

Elmira.Nurbekova@nu.edu.kz

+77010705055

Karina.Shaidarova@nu.edu.kz

+77011014774

Almas.Baishan@nu.edu.kz

+77474318799

Appendix 2: Semi-structured interview protocol

Dear respondent, thank you very much for your time and for taking part in our survey!

We are MPA students of Nazarbayev University. This survey is a part of our Masters project. Main goal of our research is to explore the practitioners' feedback on per-capita instruments for inclusive education.

Our survey is voluntary, you can withdraw at any point if you feel like it.

Questions for discussion:

1. Can you please explain how you relate to school funding and the per-capita instrument?
2. How would you describe existing funding of special education in schools in Kazakhstan?
3. Can you point us to any limitations of the instrument according to your point of view?
4. What would you suggest modifying or improving in the per capita funding system for education in Kazakhstan?
5. In regards to the per-capita instrument that has been implemented in your school, how would you assess this instrument
6. From your perspective how do you evaluate this per- capita funding instrument?
What indicators or mechanisms there are in the instrument for adjusting the budget towards children with special educational needs?

Appendix 3: Letter of consent (written form)

Dear respondent!

We are Karina Shaidarova, Elmira Nurbekova, and Almas Baishan. Thank you very much for your time and taking part in our survey.

You are invited to participate in our research study entitled “Per capita funding instrument of subsidizing inclusive education” for the master’s program in Public Administration at Nazarbayev University’s Graduate School of Public Policy. The proposed research is aimed at assessing per capita instruments by practitioners working in schools and public funds concerning inclusive education. This survey/interview will take no more than 15 minutes to complete. You can terminate your participation at any point of the survey or skip any questions that bring you discomfort.

By taking part in our research, you help us generate scholarly insights and suggestions for educational policy makers regarding improving the per-student funding instrument subsidizing inclusive education in public schools of Astana and for children with SEN to receive better learning conditions. No tangible compensation will be given. A copy of the results of the study will be available upon completion of the study upon request using our contact details listed below. Any information that is obtained during this study will be kept strictly confidential. All efforts will be made to keep your personal information in your research record confidential, no information will not be posted online or kept on a computer with public access to the full extent possible. Results of the survey will be deidentified, therefore will not include names, positions, or workplace information. Survey results will be

protected by a password and stored on our computer, then deleted upon the completion of the project. Participation in our research is voluntary and can be withdrawn at any point of the survey.

Please do acknowledge that in-depth interviews will be recorded on audio, will be deidentified and stored securely and deleted after transcribing.

If you have any further questions, please do not hesitate to contact us: Karina.Shaidarova@nu.edu.kz, Elmira.Nurbekova@nu.edu.kz, Almas.Baishan@nu.edu.kz.

Our faculty sponsor is Dr. Clifford Wentworth Frasier, clifford.frasier@nu.edu.kz.

This study has been approved by the Nazarbayev University Institutional Research Ethics Committee. If you have concerns or questions about your rights as a participant or about how the study is conducted, you may contact the Nazarbayev University Institutional Research Ethics Committee at 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: _____

Appendix 4: Letter of consent (written form in Russian)

Уважаемый респондент!

Мы, Карина Шайдарова, Эльмира Нурбекова и Алмас Байшан, благодарим вас за уделенное время и участие в нашем исследовании.

Вы приглашены принять участие в нашей проектной работе под названием “Инструмент подушевого финансирования инклюзивного образования” по программе магистратуры в области государственного управления Nazarbayev University.

Предложенное исследование направлено на оценку инструмента (способа) подушевого нормативного финансирования инклюзивного образования в средних школах с точки зрения практиков, то есть людей, работающих в школах и общественных фондах, занимающихся вопросами инклюзивного образования. Этот опрос/интервью займет не более 15 минут вашего времени. Вы можете прекратить свое участие в любой момент опроса или пропустить любые вопросы, вызывающие у вас дискомфорт.

Принимая участие в нашем исследовании, вы помогаете нам получить ученые выводы и предложения для разработчиков образовательной политики относительно улучшения инструмента финансирования на одного ученика, обеспечивающего инклюзивное образование в государственных школах Астаны и для обеспечения лучших условий обучения для детей с особыми образовательными потребностями. В качестве благодарности за участие материальная компенсация не предусмотрена.

Копия результатов исследования будет предоставлена по запросу, используя наши контактные данные, указанные ниже.

Любая информация, полученная в ходе этого исследования, будет храниться строго конфиденциально. Все максимально возможные усилия будут предприняты для того, чтобы ваша личная информация в исследовательской записи оставалась конфиденциальной и не была размещена в интернете или хранилась на компьютере с общим доступом. Результаты опроса будут обезличены и защищены паролем, а затем удалены с нашего компьютера по завершении проекта. Участие в нашем исследовании добровольно и может быть отозвано в любой момент опроса. Пожалуйста, примите к сведению, что глубокие интервью будут записываться в аудио формате на диктофон, а затем обезличены и сохранены в защищенном месте, а после транскрибирования будут удалены.

Контактная информация:

Если у вас есть дополнительные вопросы, пожалуйста, не стесняйтесь связаться с нами:

Karina.Shaidarova@nu.edu.kz,

Elmira.Nurbekova@nu.edu.kz,

Almas.Baishan@nu.edu.kz.

Наш научный руководитель - доктор Клиффорд Вентворт Фрейзер,
clifford.frasier@nu.edu.kz.

Это исследование было утверждено Этическим комитетом по исследованиям Nazarbayev University. Если у вас возникли вопросы или замечания относительно ваших прав как участника или о том, как проводится исследование, вы можете обратиться в Этический комитет по исследованиям Nazarbayev University по адресу resethics@nu.edu.kz.

Заявление о согласии.

Я, _____, даю свое добровольное согласие на участие в этом исследовании. Исследователи предоставили мне предварительную информацию и объяснили мне о целях исследования, а также о том, что мое участие в этом исследовании добровольно. Я в любое время и без объяснения причин могу отозвать свое согласие, и это не будет иметь негативных последствий для меня. Я понимаю, что собранная информация в ходе этого исследования будет обрабатываться конфиденциально.

Подпись: _____

Дата: _____

Appendix 5: Per capita financing instrument

$V_{\Pi\Phi}$ – The annual amount of per capita normative financing of a secondary education organization is calculated according to the formula:

According to the regulatory acts (<https://adilet.zan.kz/rus/docs/V1700016137>), when there are more than one type of educational program implemented in one secondary education institution, the amount of per capita normative financing is determined cumulatively, based on standards of financing per student by types.

K_{OHTZ} is the average annual contingent of students

N_z – the per capita standard of financing per student per year is calculated according to the following formula:

$$N_z = [(E_z + L) * (k_1 + k_2)] + A_1 + A_2 + A_3,$$

where

E_z - rate of educational expenses per student per year that equals annual wage fund for management personnel and teachers involved in the educational process of secondary education organization, per student per year plus expenses related to the educational process

E_z for a student with SEN is multiplied by 2;

L – the rate of expenditure of the educational environment per student per year;

k_1 – The school occupancy rate for the actual average annual contingent is:

up to 400 students – 1; epy the more there are students the less is the coefficient, from 4001 students and more – coefficient is 0.38;

k_2 – The occupancy rate of schools for the actual average annual contingent, which exceeds the design capacity of the school, is as follows:

The more is the capacity of the school or the more pupils it takes above the planned capacity the more the coefficient lessens the budget. But these adjustment factors k_1 and k_2 are not applied for classes formed from among students with SEN in public institutions of secondary education. Therefore, implementing inclusive education in school positively affects the budget not only because its norm of payment is twice more, but also because it allows the use of extra capacity without decreasing the budget.

A_1, A_2, A_3 is depreciation of buildings and structures, depreciation/purchase of equipment, per student and expenses associated with it.

Appendix 6: Invitation to participate in the survey

To whom it may concern,

We are Karina Shaidarova, Elmira Nurbekova, and Almas Baishan.

We are doing a research study entitled “Per capita funding instrument of subsidizing inclusive education” for master’s studies at Nazarbayev University’s Graduate School of Public Policy, Master in Public Administration.

You are invited to share your experience/feedback at the per capita funding instrument of subsidizing inclusive education by completing this online survey. This survey should only take approximately 10-15 minutes of your time.

Click here to start the survey [link](#). To enter the draw you don’t need to provide your contact details at the end of the survey, but you can choose to participate in further in-depth interviews and leave your contact details.

Your feedback is important and will help to improve our master project work.

Your participation in the survey is completely voluntary and all of your responses will be kept confidential.

For any questions, or if you need assistance to complete this questionnaire, please feel free to contact us:

Elmira.Nurbekova@nu.edu Karina.Shaidarova@nu.edu.kz Almas.Baishan@nu.edu.kz

Whatsapp: +77010705055 (Elmira) +77011014774 (Karina) +77474318799 (Almas)

Thank you very much for your time and for taking part in our survey!

Appendix 7: Survey protocol in Russian

Оценка инструмента подушевого финансирования учеников со специальными потребностями.

Уважаемый респондент!

Мы, Карина Шайдарова, Эльмира Нурбекова и Алмас Байшан, благодарим вас за уделенное время и участие в нашем исследовании.

Вы приглашены принять участие в нашей проектной работе под названием “Инструмент подушевого финансирования инклюзивного образования” по программе магистратуры в области государственного управления Назарбаевского Университета.

Предложенное исследование направлено на оценку инструмента (способа) подушевого нормативного финансирования инклюзивного образования в средних школах с точки зрения практиков, то есть людей, работающих в школах и общественных фондах, занимающихся вопросами инклюзивного образования. Этот опрос/интервью займет не более 15 минут вашего времени. Вы можете прекратить свое участие в любой момент опроса или пропустить любые вопросы, вызывающие у вас дискомфорт.

Принимая участие в нашем исследовании, вы помогаете нам получить ученые выводы и предложения для разработчиков образовательной политики относительно улучшения инструмента финансирования на одного ученика, обеспечивающего инклюзивное образование в государственных школах Астаны и для обеспечения

лучших условий обучения для детей с особыми образовательными потребностями. В качестве благодарности за участие материальная компенсация не предусмотрена. Копия результатов исследования будет предоставлена по запросу, используя наши контактные данные, указанные ниже.

Любая информация, полученная в ходе этого исследования, будет храниться строго конфиденциально. Все максимально возможные усилия будут предприняты для того, чтобы ваша личная информация в исследовательской записи оставалась конфиденциальной и не была размещена в интернете или хранилась на компьютере с общим доступом. Результаты опроса будут обезличены и защищены паролем, а затем удалены с нашего компьютера по завершении проекта. Участие в нашем исследовании добровольно и может быть отозвано в любой момент опроса.

Пожалуйста, примите к сведению, что глубокие интервью будут записываться в аудио формате на диктофон, а затем обезличены и сохранены в защищенном месте, а после транскрибирования будут удалены.

Контактная информация:

Если у вас есть дополнительные вопросы, пожалуйста, не стесняйтесь связаться с нами:

Karina.Shaidarova@nu.edu.kz, Elmira.Nurbekova@nu.edu.kz, Almas.Baishan@nu.edu.kz.

Наш научный руководитель - доктор Клиффорд Вентворт Фрейзер,

clifford.frasier@nu.edu.kz.

Это исследование было утверждено Этическим комитетом по исследованиям института Nazarbayev University. Если у вас возникли вопросы или замечания относительно ваших прав как участника или о том, как проводится исследование, вы можете обратиться в Этический комитет по исследованиям института Nazarbayev University по адресу resethics@nu.edu.kz.

Заявление о согласии.

Я даю добровольное согласие на участие в этом исследовании. Исследователи предоставили мне предварительную информацию и объяснили мне о целях исследования, а также о том, что мое участие в этом исследовании добровольно. Я в любое время и без объяснения причин могу отозвать свое согласие, и это не будет иметь негативных последствий для меня. Я понимаю, что собранная информация в ходе этого исследования будет обрабатываться конфиденциально.

Вы согласны?

- ☐ Согласен(на), продолжить опрос
- ☐ Не согласен(на), закончить

Вы согласились продолжить опрос.

Наш опрос является добровольным, вы можете отказаться от него в любой момент, если захотите. Для вашего удобства вся полученная информация будет храниться анонимно.

1. Какова ваша роль? Пожалуйста, отметьте соответствующий ответ или напишите свой собственный ответ в графе «Другое».

- Учитель
- Бухгалтер
- Директор
- Ассистент учителя
- Другое _____

2. Как давно в вашей школе внедрен инструмент подушевого финансирования? Пожалуйста, отметьте соответствующий ответ

- Не реализована
- Только что реализовали в этом году.
- 1–3 года
- 4+ года

3. Как бы вы оценили степень внедрения инструмента в вашей школе? Пожалуйста, отметьте соответствующий ответ

- Не реализована
- Начальный этап реализации

- Частично реализовано
- Почти полностью реализовано, но еще есть над чем работать
- Полностью реализовано

4. Как вы оцениваете поступления в подушевой бюджет на воспитанников инклюзивного образования?

- Гораздо больше, чем необходимо
- Больше, чем необходимо
- Примерно нужная сумма
- Недостаточно, покрывает только основные потребности
- Намного ниже необходимого

5. Какие изменения произошли в вашей школе после реализации программы? Пожалуйста, отметьте ответ, который вы считаете наиболее подходящим. Вы можете выбрать более одного.

- Больше репетиторов
- Дополнительное обучение учителей
- Новое оборудование для инклюзивного обучения
- Введены новые предметы

- Без изменений
- Другое _____

6. Как вы оцениваете эффективность этого инструмента по шкале от 1 до 10, где 10 — самый положительный опыт, а 1 — самый отрицательный опыт?

Можете ли вы описать свое суждение?

7. Какие проблемы (если таковые были) у вас возникли при внедрении/использовании этого инструмента?

8. Считаете ли вы, что этот инструмент нуждается в улучшении, и если да, то что бы вы предложили?

9. Готовы ли вы к более полному интервью лично? Если да, оставьте свои контактные данные.

10. С какого вы года?

11. В какой школе вы работаете?

- Частная
- Государственная

Пожалуйста, дайте нам знать, если вы можете порекомендовать кого-то, кто будет готов принять участие в нашем опросе.

Вы согласились с политикой конфиденциальности опроса.

Вы можете нажать кнопку окончить или выйти с данной страницы.

Большое спасибо за ваше время! Ваше мнение важно для нас.

Пожалуйста, не стесняйтесь, если вы когда-нибудь захотите связаться с нами.

Наши контактные данные:

Elmira.Nurbekova@nu.edu

Karina.Shaidarova@nu.edu.kz

Almas.Baishan@nu.edu.kz

Appendix 8: Survey Results

First third of results:

Participant number	Timestamp	"By clicking 'Continue,' you are voluntarily agreeing to participate in this research study. You confirm that the researchers have provided you with preliminary information and explained the study's objectives to you, as well as the fact that your participation in this research is voluntary. You may withdraw your consent at any time and for any reason without any negative consequences. You understand that the information collected during this research will be treated confidentially."	Are you willing to participate in a more comprehensive interview on this subject? If so, please provide your contact details.	Please let us know if you can recommend someone who would be willing to participate in our survey.
1	8.23.2024 20:44:41	I agree, continue the survey.	+77075050967	

2	8.24.2024 9:56:36	I agree, continue the survey.	Yes, I am ready. 87014166986	
3	8.25.2024 14:30:44	I agree, continue the survey.	yes	
4	8.25.2024 14:45:32	I agree, continue the survey.	no	no
5	8.25.2024 15:03:51	I agree, continue the survey.	no	ok
6	8.25.2024 16:46:41	I agree, continue the survey.		
7	8.26.2024 13:29:50	I agree, continue the survey.		
8	8.26.2024 17:35:11	I disagree, end it.		
9	8.26.2024 19:35:36	I agree, continue the survey.		
10	8.26.2024 20:19:25	I agree, continue the survey.	no	
11	8.28.2024 8:44:17	I agree, continue the survey.	no	Mereke Bolatovna

12	8.28.2024 9:12:42	I agree, continue the survey.	no	Hard to tell
13	8.28.2024 20:39:09	I agree, continue the survey.	no	no
14	8.29.2024 7:45:42	I agree, continue the survey.	no	
15	8.31.2024 16:45:06	I agree, continue the survey.	no	I dont know
16	9.2.2024 13:45:45	I agree, continue the survey.	no	
17	9.3.2024 16:44:40	I agree, continue the survey.	no	no
18	9.3.2024 16:54:06	I agree, continue the survey.		
19	9.3.2024 17:25:43	I agree, continue the survey.	no	no
20	9.3.2024 17:32:06	I agree, continue the survey.	no, too busy	Tutors in any school
21	9.3.2024 17:53:13	I agree, continue the survey.	not ready	

22	9.3.2024 18:17:41	I agree, continue the survey.	no	ok
23	9.3.2024 21:40:16	I agree, continue the survey.		
24	9.4.2024 19:49:38	I agree, continue the survey.	Currently no	Techers in primary school
25	9.6.2024 17:08:48	I agree, continue the survey.		
26	9.7.2024 17:35:07	I agree, continue the survey.		

Second third of results:

Participant number	How do you evaluate the per capita budget allocations for students with inclusive education?	What changes have occurred in your school after the implementation of the per-pupil funding program? Please mark the answer that you consider most appropriate. You can select more than one.	How would you rate the effectiveness of this tool on a scale of 1 to 10, where 10 is the most positive experience and 1 is the most negative? Can you describe your judgment?	What problems (if any) did you encounter when implementing/using this tool?.	- "Do you think that this tool needs improvement, and if so, what would you suggest?"
1	Far below what is necessary	Additional teacher training	10	The education department is not allowing for further development of	Yes, the education department must pay

				special education for children. The children are receiving very little knowledge, and besides education, they need physical therapy and other types of support.	special attention to the social environment of children with special needs and also provide a quality education. Teachers who work with children with special needs must demonstrate positive learning outcomes.
2	Insufficient, only covers basic needs.	New equipment for	3	Barrier with executive bodies	Definitely needs it! A systematization

		inclusive education			of the process is necessary.
3					
4	Far below what is necessary	More tutors	9	None	yes
5	Approximately the necessary amount	New equipment for inclusive education	7	No	no
6	More than enough	New equipment for inclusive education	8		
7	Approximately the necessary amount	No changes			
8					
9	Far below what is necessary	No changes	7	No enough funds	Increase finance

10	Approximately the necessary amount	New equipment for inclusive education, New subjects introduced	6	None	Hard to tell
11	Insufficient, only covers basic needs.	Additional teacher training, New equipment for inclusive education, Physical therapy room	10	no	Will increase the annual amount allocated for children with disabilities
12	Approximately the necessary amount	More tutors	10	Master classes needed	Yes, needed
13	Insufficient, only covers basic needs.	No changes	7	no	no

14	Approximately the necessary amount	Additional teacher training	5	no	-
15	Far below what is necessary	New subjects introduce	8	none	Yes
16	Insufficient, only covers basic needs.	No changes	5	none	To train more staff
17	Insufficient, only covers basic needs.	New equipment for inclusive education	5 On the one hand, it's good that specialists' offices and physical therapy rooms are being equipped. The downside is that there are	The salaries of specialists are not changing, the wages correspondingly are also not	I believe it is necessary to consider the payment up to the salary of specialists. Since for 1 child with disabilities, in addition to teachers, there is a teaching assistant, a

			too many inspections.		speech therapist, etc., the amount allocated for one child cannot fully cover the teachers' salaries.
18	Approximately the necessary amount	New equipment for inclusive education	8		
19	Approximately the necessary amount	More tutors	yes	no	no
20	Insufficient, only covers basic needs.	More tutors	5, because it's a private school, they attract more funds from other		Open implementation

			sources (parents). They only spend the per-pupil funding on tutors.		
21	Insufficient, only covers basic needs.	Saving on utilities because the heated area is the same, but there is less- more money because there are fewer-more children	1	Saving on utilities because the heated area is the same, but there is less- more money because there are fewer-more children	A part of a school's expenses doesn't depend on the number of students. A mixed system is needed that would cover basic needs like electricity, heating, water, etc., regardless of the number of students,

					and then a per-student funding could be added on top.
22	Far below what is necessary	No changes	3	Not full readiness of teachers, students, and deputy directors.	No
23					
24	Far below what is necessary		3	To have the opportunity to engage in additional individual activities	Definitely needs it. More narrow specialists should be attracted.
25	Approximately the necessary amount	Additional teacher training, New equipment for inclusive education	6	no problems	No

26	Insufficient, only covers basic needs.	New subjects introduced.	7		
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Last third of results:

Participant number	What is your role? Please check the corresponding answer or write your own answer in the "Other" field.	How long has your school implemented the per-student funding instrument? Please check the corresponding answer.	How would you rate the degree of implementation of the tool in your school? Please check the corresponding answer.	What city are you from?	What type of school you work in?
1	Teacher	Since 2015	Almost completely implemented, but there is still room for improvement.	Astana	Public
2	Director	It was implemented this year	Beginning stage of implementation	Karaganda	Private
3	Inclusive education	Not implemented	Not implemented	Temirtau	Public

	support room teacher				
4	Teacher assistant	It was implemented this year	Almost completely implemented, but there is still room for improvement.	Temirtau	Public
5	Teaching assistant	1–3 years	Almost completely implemented, but there is still room for improvement.	Temirtau	Public
6	Teacher assistant	It was implemented this year	Almost completely implemented, but there is still room for improvement.	Temirtau	Public
7	Coach	It was implemented this year	Beginning stage of implementation	Karaganda	Private
8					

9	Deputy director	4+ years	Partially implemented	Astana	Private
10	Teacher assistant	It was implemented this year	Beginning stage of implementation	Karaganda	Private
11	school psychologist	1–3 years	Implemented in full	Astana	Public
12	Teacher	Not implemented	Partially implemented	Astana	Public
13	Teacher	Since 2010	Implemented in full	Astana	Public
14	Teacher	Not implemented	Beginning stage of implementation	Astana	Private
15	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Astana	Private
16	Teacher	Not implemented	Beginning stage of implementation	Almaty	Public

17	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Astana	Public
18	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Astana	Public
19	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Aktobe	Public
20	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Astana	Private

21	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Ekibastuz	Public
22	Deputy director	1–3 years	Beginning stage of implementation	Shymkent	Public
23	Teacher	Not implemented	Not implemented	Astana	Private
24	Teacher		Partially implemented		Private
25	Teacher	4+ years	Almost completely implemented, but there is still room for improvement.	Astana	Private
26	Teacher	1–3 years	Almost completely implemented, but there is still room for improvement.	Astana	Private

Appendix 9: Correlation analysis

To find a correlation between columns we first need to code our data. Here is our coding:

Are you willing to participate in our interview?

1 -> no

2-> yes

All participants who have not answered this question and have not left their contacts we have marked as “No”. Those who have left their contacts without answering the question assume that they missed the question but are willing to participate in the interview. We have marked them as “Yes”.

How do you evaluate the per capita budget allocations for students with inclusive education?

1 -> Far below what is necessary

2-> Insufficient, only covers basic needs.

3-> Approximately the necessary amount.

4-> More than enough

What changes have occurred in your school after the implementation of the per-pupil funding program? Please mark the answer that you consider most appropriate. You can select more than one.

1 -> No changes

2-> Additional teacher training

2.5 -> Additional teacher training, New equipment for inclusive education

3-> New equipment for inclusive education

4-> More tutors

5-> New subjects introduced

How would you rate the effectiveness of this tool on a scale of 1 to 10, where 10 is the most positive experience and 1 is the most negative? Can you describe your judgment?

1-> 1

2-> 2

....

What problems (if any) did you encounter when implementing/using this tool?.

1 -> no

2-> master classes needed, Not full readiness of teachers, students, and deputy directors.

3-> The salaries of specialists are not changing, the wages correspondingly are also not,
Not enough funds, To have the opportunity to engage in additional individual activities

4-> The education department is not allowing for further development...., Barrier with
executive bodies,

Do you think that this tool needs improvement, and if so, what would you suggest?

1 -> no

2 -> yes, (no explanation)

3 -> yes, training related improvements,

4 -> yes, funding related answers

What is your role? Please check the corresponding answer or write your own answer in the
"Other" field. (Coding)

1 -> Teaching stuff

2 -> School management

How long has your school implemented the per-student funding instrument? Please check
the corresponding answer.

1 -> Not implemented

2 -> Implemented this year

3 -> 1-3 years

4 -> 4+ years

How would you rate the degree of implementation of the tool in your school? Please check the corresponding answer.

1 -> Not implemented

2 -> Beginning stage of implementation

3 -> Partially implemented

4 -> Almost completely implemented, ...

5 -> Implemented in full

What city are you from?

1 -> Astana

2 -> Karaganda

3 -> Temirtau

4 -> Almaty

5 -> Aktobe

6-> Ekibastuz

7 -> Shymkent

What type of school you work in?

1 -> Public

2 -> Private

We impute missing values with the mean of each column before calculating the correlation coefficient between our columns.

Our Values

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11
	2	1	2	10	4	3	1	4	4	1	1
	2	2	3	3	4	3	2	2	2	2	2
	2	2.1304	2.6818	6.409	1.8888	2.2777	1	1	1	3	1
	1	1	4	9	1	2	1	2	4	3	1
	1	3	3	7	1	1	1	3	4	3	1
	1	4	3	8	1.8888	2.2777	1	2	4	3	1
	1	3	1	6.409	1.8888	2.2777	1	2	2	2	2
	1	1	1	7	3	4	2	4	3	1	2

1	3	3	6	1	2.2777	1	2	2	2	2
1	2	2.5	10	1	3	1	3	5	1	1
1	3	4	10	2	2	1	1	3	1	1
1	2.1304	2.6818	6.409	1.8888	2.2777	1	1	1	1	1
1	2	1	7	1	1	1	4	5	1	1
1	3	2	5	1	1	1	1	2	1	2
1	1	5	8	1	2	1	3	4	1	2
1	2	1	5	1	3	1	1	2	4	1
1	2	3	5	3	4	1	3	4	1	1
1	3	3	8	1.8888	2.2777	1	3	4	1	1
1	3	4	8	1	1	1	3	4	5	1

	1	1	4	5	1.8888	2	1	3	4	1	2
	1	1	1	1	3	4	1	3	4	6	1
	1	2	1	3	2	1	2	3	2	7	1
	1	2.1304	2.6818	6.409	1.8888	2.2777	1	1	1	1	2
	1	2	2.6818	3	3	3	1	2.48	3	2.16	2
	1.125	3	2.5	6	1	1	1	4	4	1	2
	1.125	1	5	7	1.8888	2.2777	1	3	4	1	2
Mean	1.125	2.1304	2.6818	6.409	1.8888	2.2777	1.1153	2.48	3.1538	2.16	1.423

Correlation Results

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11
-------	-------	-------	-------	-------	-------	-------	-------	-------	--------	--------

Col 1		-	-					-	-	-	-
	1,000	0,185	0,009	0,011	0,543	0,170	0,236	0,022	0,227	0,056	0,030
	0	1	9	1	7	6	8	3	1	3	6
Col 2	-		-		-	-		-	-		-
	0,185	1,000	0,059	0,126	0,342	0,435	0,198	0,317	0,163	0,036	0,120
	1	0	5	0	2	0	0	6	2	4	0
Col 3	-	-			-	-		-		-	
	0,009	0,059	1,000	0,381	0,186	0,188	0,310	0,088	0,235	0,302	0,155
	9	5	0	5	5	8	4	4	8	9	8
Col 4					-	-				-	-
	0,011	0,126	0,381	1,000	0,309	0,191	0,336	0,072	0,338	0,453	0,268
	1	0	5	0	9	3	1	6	0	8	2
Col 5		-	-	-					-	-	
	0,543	0,342	0,186	0,309	1,000	0,659	0,438	0,161	0,112	0,026	0,066
	7	2	5	9	0	6	5	8	9	5	2
Col 6		-		-						-	-
	0,170	0,435	0,188	0,191	0,659	1,000	0,154	0,030	0,017	0,090	0,004
	6	0	8	3	6	0	1	9	6	4	7

Col 7	-	-	-					-			
	0,236	0,198	0,310	0,336	0,438	0,154	1,000	0,186	0,247	0,255	0,178
	8	0	4	1	5	1	0	9	1	8	1
Col 8	-	-	-								
	0,022	0,317	0,088	0,072	0,161	0,030	0,186	1,000	0,736	0,044	0,015
	3	6	4	6	8	9	9	0	9	4	5
Col 9	-	-									
	0,227	0,163	0,235	0,338	0,112	0,017	0,247	0,736	1,000	0,109	0,239
	1	2	8	0	9	6	1	9	0	2	7
Col 10	-	-									
	0,056	0,036	0,302	0,453	0,026	0,090	0,255	0,044	0,109	1,000	0,404
	3	4	9	8	5	4	8	4	2	0	1
Col 11	-	-									
	0,030	0,120	0,155	0,268	0,066	0,004	0,178	0,015	0,239	0,404	1,000
	6	0	8	2	2	7	1	5	7	1	0

It is important to pay attention to strong and medium correlation coefficients, where 0.6 to 0.8 is considered strong and 0.4 to 0.6 is considered medium correlation.

From the correlation results it can be seen that there is a medium positive correlation between willingness to participate in the interview and the problems encountered when implementing

this tool. Meaning those who have experienced bigger problems in implementing the tool have more interest in participating in depth interviews.

Also, there is a medium negative correlation between evaluation between per capita budget allocations for students with inclusive education and opinion that tools need improvement (where budget being highest.) Meaning those who think that that allocation is not enough believe that tool needs improvements in regard to more money needs to be allocated.

There is a strong positive correlation between problems occurred during implementation and need for improvement of the tool. This is straightforward.

There is a medium positive correlation between participants' need for improvement and participant position. Meaning that teaching staff have encountered more issues with implementation whereas management team encountered less issues with implementation of the tool.

There is also medium negative correlation between how participants rated the tool and city they are from. Cities Astana, Karaganda, Temirtau, Almaty rated this tool high, and others rated it low.