



1ST KIX EDUCATION POLICY AND INNOVATION CONFERENCE (EPIC) DAY 4 SYNTHESIS REPORT

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ABOUT KIX EDUCATION POLICY AND INNOVATIONS CONFERENCE (EPIC)

The first KIX Education Policy and Innovation Conference took place on 7, 14, 21, and 28 October 2021. The conference aimed to create a forum for intensifying dialogue between researchers, policymakers, and practitioners from Caucasus, Eastern Europe, Central Asia, and beyond. It provided a venue for bridging the seemingly perennial gap between research, policy, and practice. In bringing together educational sector experts and institutions, the conference mobilized knowledge and provided visibility to national and regional expertise. It welcomed recent data-driven research and best practice, which addressed current national and regional challenges and provided prospective solutions.



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ACKNOWLEDGMENTS

The 1st KIX Education Policy Innovation Conference (EPIC) attracted the researchers, policymakers, and practitioners from Eastern Europe, Caucasus, Central Asia, and beyond for the purpose of sharing results and knowledge on education policy and innovation and facilitating the dialogue on the existing gap between research, policy, and practice.

This report is a synthesis of the five sessions held within a "Teaching Quality and Learning (Assessment)" thematic area on 28th October 2021. The presenters shared the empirical evidence to present current national challenges in the region and possible solutions. The 4th Day attracted nearly 240 scientists, and practitioners from around the region.

I would like to express special thanks to the chairs of each thematic session: Duishonkul Shamatov (Nazarbayev University), Elizabeth Cassity (ACER), Arushi Terway (NORRAG), Ulviyya Mikayilova (ADA University), and Ryan Allen (Chapman University) – for their role in moderating the sessions, facilitating the rich discussions, and the insights provided.

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EPIC DAY 4: TEACHING QUALITY AND LEARNING

INTRODUCTION

“...teachers must be at the centre and their profession revalued and reimagined as a collaborative endeavour which sparks new knowledge to bring about educational and social transformation.” (REIMAGINING OUR FUTURES TOGETHER – A new social contract for education, UNESCO, 2021)

A boom in research initiatives and funded projects that provide valuable insights into education policy and innovation has been witnessed over the past decade. However, despite earnest efforts to leverage this knowledge and to ensure quality education for all, a vast rift remains between actionable research and its implementation in practice. This necessitates a more in-depth review of the ongoing reforms in the region and beyond, the challenges specified by leading experts, the solutions proposed, and the reflections on their implementation supported by research evidence.

The 4th day of the EPIC conference was devoted to the discussion of research and good practices regarding teacher training and development, teaching and learning materials, instruction quality, and assessment for learning. In five synergistic sessions, researchers explored recent changes in teaching quality and learning implemented in the region and beyond:

- Session 13: *Educating Educators for the Future*
- Session 14: *The 21st Century Teaching and Learning*
- Session 15: *Developing Teacher Competencies*
- Session 16: *Reflection on the Context for Effective Learning*
- Session 17: *Developing and Improving Instruction Quality.*

Building on selected key challenges and solutions from the five sessions in the targeted thematic area, this Synthesis Report presents key evidence from research and practice with the potential for transformative changes.

All materials of the five sessions of the thematic area can be accessed [here](#).

KEYNOTE ADDRESS

The professional development of teachers is a lifelong process. It begins with the initial preparation teachers receive to provide the foundation and continues with further development, which provides a means for improving the quality of teachers. Professional development for teachers has been shown to be successful in changing the way teachers learn, work and feel about their job, including their self-efficacy and job satisfaction (Desimone et al., 2002; OECD, 2016c). There is also evidence that the type and quality of professional development activities are critical in shaping the quality of the teaching force. Teacher quality has a measurable impact on student performance and on improving student learning (Hattie, 2009).

Considering that teachers need to remain up to date with the changing requirements of the modern workplace, the growing demands require wider and more diverse opportunities and incentives for professional development throughout the career to enable them to develop and broaden their knowledge and understanding of teaching and to improve their skills and practices.

The interest is growing in innovative approaches to encourage life-long learning and effective teacher professional development (TPD). In the keynote address *Freda Wolfenden, Professor of Education, and International Development at Open University* emphasized that sustainable systemic quality classroom teaching demands attention to how professional learning is designed and implemented across systems (at scale). It is necessary for teacher professional learning structures to be embedded in the education ecosystem; it is important for all teachers to have access to *regular, high-quality, job-embedded* TPD opportunities and experiences throughout their careers and *digital technologies must be used* to support and enhance teaching-learning activities in ways appropriate to the context. The use of ICTs can make TPDs more personalized and teacher-owned. Further, it can extend the reach of professional development and make it more inclusive and localized. To scale up the innovations, its quality, evidence of impact, and alignment with perspectives and priorities of decision makers must be considered. It is also

critical to engage in ongoing evidence-informed discussions with stakeholders for scaling to occur. She recommended thinking about the three key factor approach when scaling TPDs. These factors are quality, which adheres to the principles of effective teacher professional development (incorporates active learning, supports collaboration, provides coaching and expert support, and offers opportunities for feedback and reflection); efficiency, which refers to the use of resources that ensure quality and equity; and equity, when professional development is accessible and inclusive of all teachers and supports equity in classroom practice.

SESSION 13: EDUCATING EDUCATORS FOR FUTURE

Professional development of teachers remains a priority for public policy and the governments in the region and beyond. As such, a range of various activities and approaches to promote teacher professional development have been implemented. Researchers from Kazakhstan, Kyrgyzstan and Georgia shared insights from the attempts to reform and innovate teacher professional development in their countries.

In Kazakhstan, teacher leadership has started to be embedded in the practice of educational improvement. The concept of teacher leadership is continually advanced as a key component for both the success of schools and the professionalization of teachers (Boles & Troen, 1994; Dozier, 2007; Greenlee, 2007; Lieberman, 1987; Smith, 1999-cited in Cosenza, 2015). This approach views teacher leadership as an entitlement to become active participants of educational improvement at classroom, school, and system level (Bangs & Frost, 2016). Corcoran (1995) has proposed that experts and organizations that are designing and implementing professional development programs must stimulate and support site-based initiatives (schools', districts' and teachers' initiatives) as a guiding principle. Teacher empowerment, facilitating teacher-led initiatives, is seen as an important element of educational improvement in schools in Kazakhstan where hierarchical cultures and structures still prevail. Teachers assuming more leadership functions "rightly and importantly hold a central position in the ways schools operate and in the core functions of teaching and learning. Less is known ...about its effects" (York-Barr and Duke, 2004).

Gulmira Qanay (Kazakh National Women's Teacher Training University) and Matthew Courtney presented a study of the two-year long Teacher Leadership in Kazakhstan (TLK) initiative aimed at exploring the effects of the TLK experience and collaborative school culture on teacher leadership capacity and teachers' development entitled "Exploring the development of teacher leadership in schools in Kazakhstan." The TLK initiative was based on the internationally recognized teacher-led development work strategy, which focuses on enabling teachers to lead individual development projects

throughout one academic school year (Frost, 2011). The study's main findings confirmed the importance of building teacher leadership capacity at schools as well as the importance of a school collaborative cultures. The evidence shows that teachers from the school with more collaborative school cultures enjoy more effective initiatives and the intra- and inter-school collaboration have positive influence on building teachers' leadership capacity.

The need to strengthen the leadership capacity of teachers as advocates for new ideas and primary reformers in Kazakhstan was a focus of the presentation by *Alma Murzalinova (Orleu)*. It was stressed that a scale and speed of education reform in Kazakhstan requires teachers to effectively implement innovations. The author, admitting the difficulty teachers face and noticing the inconsistency between the revolutionary changes in the education and the evolutionary character of teachers' professional growth, asserted that the issue might be solved if the system of teacher professional development is saturated with diverse teacher development opportunities as well as resources for leadership growth, interaction, mentorship, and value exchange, resulting in a deliberate and useful promotion of reforms inside the pedagogical community's corporate culture. The author views such professional development as a source of educational leadership that ensures the profession's attractiveness, society's trust, and the education system's long-term development.

A life-long approach to teacher professional development encompasses formal courses, seminars, conferences and workshops, online training, and mentoring and supervision. Interest is also growing in teacher professional development approaches to encourage more informal ways of learning among teachers through reflection, joint problem-solving, networking, and sharing of expertise and experience. Such ideas are sometimes brought together in concepts such as "learning organizations" and "professional learning communities" (OECD, 2020). The benefits of professional development depend on the feedback and follow-up support they provide. A provision of continuous follow-up support was listed by Guskey (1995a) among the 'guidelines for success' that must be followed when planning and implementing professional development opportunities for teachers.

In Kyrgyzstan, a mentorship model has been embedded as a part of teacher professional development as a new approach for teacher professional learning. *Nazira Dusheeva (Kyrgyz Academy of Education) and Tamo Chattopadhyay (American University of Central Asia)* presented a scalable and sustainable mentoring model piloted in Kyrgyzstan. The model also includes in-service training of teachers as mentors, as well as an innovative approach to evaluations of teacher professional performance both by teachers themselves and teacher mentors. This model is viewed as a solution for supporting novice teachers entering the profession as well as

professionalization of the experienced teachers by the means of mentor experiences. The technology-enhanced mentoring opportunities in teacher development were also discussed.

The contexts wherein professional development occurs have a serious impact on teachers and their professional development. "Multiple professional communities exist in any teachers' professional 'map'" (McLaughlin, 1994, p. 47). Therefore, there should be multiple strategic sites for professional growth within the education-policy system: district, department, school, and professional organization. Each of these can make a particular contribution that may take different forms and involve various strategies, but all are equally as important (McLaughlin, 1994). *Rusudan Chanturia (Coalition Education for All Georgia)* provided a general overview of the teacher professional development system in Georgia and various interventions in teacher professional development introduced by the Ministry of Education over the previous two decades. Despite these efforts, results of teacher certification exams and students' international assessments have challenged the effectiveness of the current system. The presenter views a problem with highly centralized teacher training provision which, according to the presenter, (i) has no sufficient potential in meeting a diversity of teacher professional needs at the local level and (ii) reveals minimum involvement of schools in teacher professional development, providing very limited school-based teacher professional development opportunities.

Tajikistan also has a centralized in-service teacher training system. In order to provide a better match between centralized teacher training and school-based teacher support *The Competence-Based Teacher Professional Development Project* was piloted and reported by *Bahodur Mengliev*. The attempt to combine teacher in-service trainings with a follow-up school-based mentoring experience of trained teachers was evaluated by employing the participant-based evaluation. This evaluation revealed a satisfaction of teachers and schools with the increase in teaching quality. The project also strengthened the capacity of the centralized in-service teacher professional development provision by embedding the piloted competence-based teacher training as a part of the services of the governmental teacher in-service training institute.

Thus, the session revealed a trend in the teacher professional development in the region towards divergence from the centralized and out-of-school-provided system of professional development, extensively guided by internationally-produced, research-proven ideas. Presenters provided overviews and evaluation of less hierarchical and more informal approaches to teacher professional development piloted in countries. Special interest in the region is in making TPD practice-rich with practice-based reflection. This TPD should be school-based and teacher- and school-initiated and supported by mentors or more experienced

peers. According to evaluation results these approaches enhance teachers' practices and professionalism throughout their teacher education and teacher careers.

SESSION 14: THE 21ST CENTURY TEACHING AND LEARNING

"Education is no longer about teaching students something alone; it is more important to be teaching them to develop a reliable compass and the navigation tools to find their own way in a world that is increasingly complex, volatile and uncertain. Our imagination, awareness, knowledge, skills and, most important, our common values, intellectual and moral maturity, and sense of responsibility is what will guide us for the world to become a better place" (Schleicher, 2019).

In the 21st century new technologies, global competition and communication, social networking, and the accelerated growth of knowledge call for different learning opportunities and teaching approaches. It is already not possible to teach 21st-century students using 20th-century pedagogical practices in 19th-century school organizations (Schleicher, 2018). Most importantly, the role of students in the education system is changing from participants in the classroom, learning by listening to directions of teachers with emerging autonomy, to active participants, with both student agency and co-agency in particular with teacher agency, who also shape the classroom environments. Students have become change agents in the system alongside teachers and principals and are learning to be responsible for their own learning. Educators must prepare students to succeed and thrive in the rapidly evolving, technology-rich, global community (ASCD, 2022). To teach 21st century skills is to teach students a process of thinking about what they are learning.

Student assessment has also shifted from standardized testing only to different types of assessments for different purposes. *Dr. Isak Froumin (Higher School of Economics, Moscow)*, in his keynote address for EPIC Day 3 on promoting the assessment of universal competencies, presented a framework in which universal competencies and soft skills are assessed alongside traditional subject-based competencies. He emphasized the importance of educational outcomes in educational assessment, highlighting that the focus is often on the assessment process and assessment techniques instead of on what should be assessed.

Unfortunately, major challenges being faced in the 21st century – from technological disruption to climate change, conflict, the forced movement of people, intolerance, the COVID-19 pandemic, and more – all these further exposed and deepened the inequalities. Educators, more than ever,

have a responsibility to support the most vulnerable and disadvantaged, helping to ensure inclusion of those learners who are most in need. Various adapted assessment models can demonstrate progress and increase opportunities for learners with special education needs. To support inclusive education, assessment systems need to abide by principles that 'promote the learning of all pupils as far as possible' (European Agency, 2007, p. 47).

Ulviyya Mikayilova (ADA University, Azerbaijan) presented the state of inclusive assessment in the educational systems of 30 countries in Central and Eastern Europe, the Caucasus, and Central Asia (the UNESCO Regional Education Monitoring Report, 2021). It was emphasized that assessment and inclusion should not be seen in opposition. Countries in the region have been continuously working to add an inclusion dimension to their assessment policies and practices. The major findings of a comparative study were a strong political will of governments in the region to ensure inclusion of learners with special needs and a significant progress made in assessment towards that goal. However, it was revealed that assessment is still sometimes used as a means for segregation of learners with special needs rather than strengthening their full and meaningful inclusion. Education systems should continue supporting and guiding schools and teachers in the use of assessment as a tool for planning and implementing meaningful participation, teaching, and learning of all students.

The integration of 21st century skills (21CS) in education systems is necessary for all learners to succeed in today's knowledge-based society, where innovation and technology are predominant. According to *Claire Scoular and Ian Teo (The Australian Council for Education Research (ACER))*, a fully integrated system remains elusive for most countries, while it is understood that achieving this goal is likely to involve policy and practice approaches that align curriculum, assessment and pedagogy domains with a 21CS agenda. The presenters introduced a framework for the 21st skills integration into curriculum and its alignment with the assessment and pedagogy which can be served as an important tool in the curriculum reform process. The presenters also provided their reflections on two KIX EAP Learning Cycles on the theme of integrating 21st century skills into curriculum. Policymakers, researchers, school leaders and teachers from 14 countries were enrolled in the 4-week online course that aimed to strengthen the link between 21CS policy and implementation. The presenters provided an overview of the challenges that various national representatives addressed as part of their needs assessments and curriculum reform process, including contested and tangled understanding of 21CS, lack of explicit articulation and integration of the 21CS in curriculum, lack of assessments connected to learning outcomes, and lack of 21CS pedagogy and understanding of how teachers should teach. Importantly, a comparative approach was used to develop policy responses.

Due to changes introduced in the 21st century, the nature of work has also changed over the past half-century. Since 1960, people spend considerably more of their working hours doing non-routine tasks that require higher-order, analytical thinking and interpersonal skills. Higher education has a potential to address this critical feature of knowledge-based economies and innovative societies. Students, families, employers and governments all expect that higher education equips learners with the knowledge and skills they need to lead productive and remunerative working lives, and to contribute to the economic prosperity and social well-being of the countries in which they work. Education trajectories should be thought of as a continuum, with attention also being paid to the integration of youth into the world of work. A need for better alignment of higher education systems to labor markets and its implications for teaching and learning has become an increasing concern for policy makers.

Anzhelika Chepelenko (Ukrainian Engineering and Pedagogical Academy) reported on prospects of the market of educational services in Ukraine, emphasizing a need for rapid teacher adaptation to changing needs of the today's world which necessitates a new, different perspective on the implementation of educational processes, as well as the means and forms of their adaptation. According to the Degreeed 2021's Global Data Report, the most important skills in terms of countries', industries', and employer requirements are technological (advanced IT and programming, advanced data analysis and mathematics, technology design and engineering), social (leadership and management, communication and negotiation skills, adaptability and continuous learning), and cognitive (project management, creativity), all of which may leave people, communities, and businesses at risk without mastery and development. A future of education is impossible without cooperation of universities with potential employers which, with the aim of promoting the development of the skills demanded in the market, may either create necessary conditions at universities or to create an additional education space in their premises.

In general, the session speakers addressed several challenges that education faces in the 21st century: (i) the need for new and different learning and teaching approaches due to changes and challenges brought about by the 21st century; and (ii) the need for aligning assessment, curriculum, and instruction at both school and university levels with the 21CS and skills demanded in the market. The issue of ensuring equity for each learner was specifically emphasized. Particularly, the speakers shared some approaches and ideas (embedding universal competencies in school curricula; further development of inclusive assessment systems; aligning curricula, assessment, and pedagogy with the 21CS, as well as aligning higher education curricula with labor market expectations) that could be useful in ensuring that education meets the 21st century demands.

SESSION 15: DEVELOPING TEACHER COMPETENCIES

“Teachers are one of the most influential and powerful forces for equity, access and quality in education and key to sustainable global development” (Eric Falt, UNESCO New Delhi Director, 2019).

OECD (2019) defines “competences” as the on-going and progressive ability to meet complex demands in a defined context by mobilizing holistic psychosocial resources (cognitive, functional, personal, and ethical) as needed to accomplish these demands. “Competencies” are also defined as components of the competence encompassing knowledge, understanding, skills, abilities and attitudes (thus also composed of multiple psychosocial resources) (based on Rychen and Salganik, 2003; OECD, 2005b). Teachers’ professional standards and competence frameworks are viewed as tools that can help teachers cope with the 21st century challenges. They provide a window into how countries describe the knowledge required of teachers and how they plan improvement for the profession. Considering that it has been persistently posed that initial training is not sufficient to deal with the challenges of the process of globalization and a lifelong learning approach for the teaching profession to achieve 21st challenges in education (CERI, 1998; Coolahan, 2002; Musset, 2010; OECD, 2005), the importance of in-service teacher professional development cannot be underestimated. Short, professionally-oriented programs, employment or school-based training that combines work in schools with an individual training program are referred to as alternative pathways (European Commission/EACEA/Eurydice, 2015, 2018).

These in-service teacher professional development programs need to establish a conducive environment in which teachers get insights into the beneficial practices of teaching in a classroom (Sim, 2011). *Oluwaseyi Olubunmi Sodiya* (Khazar University, Azerbaijan) provided a theoretical overview of research on the importance of school leadership for an employment-based teacher professional learning. The author introduced a conceptual framework on how school principals may organize this type of teacher professional development. He reported on a pilot study aimed to measure the influence of the school principal-led workplace professional development training for the teachers on acquiring the knowledge of formative assessment. The study produced an important finding of the perceived effectiveness of the school-based TPD: the majority of teacher participants reported a significant change after the two weeks of school-based training.

Global policy recognizes teachers’ professional statuses based on their participation in teacher training programs, in order to fulfill a minimum quality set of professional

standards or competencies. A set of professional teaching competencies ensures that teachers are aware of what is expected from them, and administrators have a framework for ease of appraisal. Teacher competencies provide a basic reference of how countries guide teachers and education systems on what teachers should know and be able to do to clarify their role in a knowledge-based profession.

Kazakhstan, like many countries of the world, has been passing from the paradigm of knowledge to practice-oriented training and the formation of teacher professional competencies. In Kazakhstan’s education system, there is an active discussion of the choice of forms and methods used during the professional training of future teachers, and the ratio of theoretical and practical knowledge. *Zhanna Sagitova* (L.N. Gumilyov Eurasian National University, Kazakhstan) presented a theoretical analysis of the initial teacher training in Kazakhstan, which revealed a dissatisfaction toward the training as the specialists who led the training did not have enough experience in the field. The study also identified a need for the formation of professional competences of future teachers based on practice-oriented training. A pilot approach for the organization of a practice-oriented educational process in universities was carried out at all stages of training. It was aimed at forming the professional competence of student teachers by immersing them in a professional environment through the use of practice-oriented learning technologies. The study, which intended to get insights into whether a piloted practice-oriented approach to the formation of professional competences was effective, showed the increased educational motivation of students.

Saule Mukhambetjanova (Orleu) shared the experience with the in-service teacher training aimed at the formation of digital competencies of teachers in Kazakhstan. Considering that the success and efficacy of distance learning is determined based on the teacher’s degree of digital competence, topics such as distance learning (d-learning), digital technology, interactive teaching techniques, current educational needs, and teacher professional skills will be integrated into the teacher professional development, based on the worldwide ICILS study.

Not only does the in-service teacher professional development create an opportunity for the teachers in terms of gaining certain skills but its impact on the education system is also considerably positive (Schunk et al., 2002). Hence, considering the positive outcomes of the in-service professional development for the teachers, these opportunities should be given more attention in order to increase the achievement of the students.

In this session different approaches to align both pre- and in-service teacher education with teacher competencies were presented. These approaches included forming teacher

competencies through school principal-led, site-based professional development initiatives; practice-oriented learning and internships; and developing teachers' digital competencies through multi-dimensional and multi-stage professional development. Initiative participants found these approaches to be motivational and satisfactory.

SESSION 16: REFLECTION ON THE CONTEXT FOR EFFECTIVE LEARNING

There are certain barriers that inhibit effective learning for students. These barriers can take its roots in the students' characteristics, such as low socio-economic family background, the increasing level of mobility, and poor neighborhood conditions (Adelman & Taylor, 2008). As a result of these issues, a considerable number of children fail to attain success at school (Webb et al., 2012). Gürten et al. (2019) conducted research with the aim of determining and assessing the barriers that high school students face during the learning process in Turkey. An important finding highlighted that a lack of support from the teacher is a significant barrier in attaining the high achievement at school. In addition to this, it was revealed that classroom environment also affects the learning of the students.

High-quality teachers need high-quality training to be prepared to ensure effective learning for diverse students. With regard to the effect of teachers' professional development on students' learning, a number of studies report that the more professional knowledge teachers have, the higher the levels of student achievement (National Commission on Teaching and America's Future, 1996, 1997; Falk, 2001; Educational Testing Service, 1998; Grosso de Leon, 2001; Guzman, 1995; McGinn and Borden, 1995; Tatto, 1999). In fact, the report of the National Commission on Teaching and America's Future cites evidence that "investments in teachers' knowledge and skills net greater increases in students' achievement [in the United States] than other uses of an education dollar" (Darling-Hammond, 1999, p. 32).

The structure, coursework, and field experiences of pre-service programs are important to consider when designing or reforming teacher training because they all contribute to the level of preparation. Considering that, teacher-education programs and professional-development programs have focused on developing teachers' knowledge (of children, the curriculum, teaching strategies, school facilities and educational objectives) and particular skills. These skills will allow teachers to construct learning activities that can be implemented within the classroom that will allow them to help each student, both individually and in a group context, and that will give them the necessary tools to make informed decisions in their practice (Yinger, 1980; McCutcheon, 1980).

It is important to have a clear view of the kind of educational opportunities that can encourage the development of teachers and the kind of education that they need to cater to the multi-faceted demands of ensuring effective learning and preparing the younger generations to live as contributing members of society. Teacher education must meet the new demands which teachers are facing. *Morari Natalia (Tiraspol State University, Moldova)* reported on the experience with the development of teacher student research activities in Humanist disciplines in Moldova. The author shared the approach for designing educational processes in a way that allows students to act as researchers. A particular emphasis was placed on using a method of literary research in which students may observe behaviors, examine occurrences from a cause-and-effect viewpoint, and argue scientifically. This research activity will influence students' knowledge in the literary-artistic sector, their value system, and will yield personal learning experiences as well as new information and abilities.

Teacher training must also ensure that teachers can, in practice, use the books available to the pupils in the most effective way possible. A textbook can be conceived as a working tool either for the teacher or for the pupil. Textbooks inspired by a pedagogy which leaves little freedom for initiative could require the teacher to complement the textbook by means of surveys, information-seeking, practical work and the like. Teachers must be prepared for taking advantage of all the possibilities. Textbooks can be one way for teachers to improve their teaching. *Natalia Orekhova and Bigazina Perizat (both represent Nazarbayev Intellectual Schools, Kazakhstan)* explained that the Republic of Kazakhstan's State Compulsory Standard of Primary Education specifies that a teacher's educational activity should be directed at strengthening pupils' research abilities. The presenters reported about their experience with the development and piloting of a new textbook for teaching the World Knowledge subject in primary schools, which is based on the principles of learning through research and is based on a scientific approach to the stages of developing research skills from grade to grade, considering primary school students' age capabilities. A small-scale diagnostic study carried out in two Kazakhstani schools with 54 second-grade kids participating revealed that students' interest in completing practical mini-research and their overall research skills were considerably improved.

One of the barriers that hinders the learning and development of young children is nutrition. When children do not have access to the nutrients they need, it can have far-reaching impacts on learning, and even school attendance. Good nutrition positions a child for success by not only raising their chance for survival but also promoting cognitive development. This contributes to better outcomes in the classroom, supporting stronger human capital and

economic development outcomes in a country (Nutrition International, 2021). The best way to invest in kids from their early days may be to consider nutrition an integral component in development projects. *Oscar Díaz Botía, Tilman Brück, Damir Esenaliev, Philipp Schröder and Wolfgang Stojetz (International Security and Development Center, Germany)* reported on their evaluation of the McGovern-Dole Food for Education (FFE) initiative implemented for two years in Kyrgyzstani elementary schools with the goal of eliminating hunger and promoting literacy. Children who were exposed to the program had better nutrition and diets. The authors discovered that a good diet is critical: avoiding unhealthy snacks is highly associated to improved executive function, literacy, and numeracy results. Furthermore, vitamin A-rich foods in the home are linked to better child health, reduced short-term hunger, improved executive function, and greater reading and numeracy. Hence, the findings imply that the intervention had significant effects.

The session presentations represent a kind of a map of possible important initiatives with the potential to improve student learning. Teaching student teachers research skills, preparing teachers to use textbooks based on the pedagogy of inquiry and active learning and finally making teachers (and families) aware of healthy vitamin-A-rich nutrients and their importance for children's learning—all these diverse interventions proved to bring learning effects, according to the presenters.

SESSION 17: DEVELOPING AND IMPROVING INSTRUCTION QUALITY

Helmke et al. (1986) explored the factors related to the instructional quality and classroom management in terms of predicting student cognitive and affective outcomes. The authors found out that direct instruction variables, such as efficient management, intensive use of time, and strong task orientation positively correlate with the student engagement and cognitive outcomes. Kunter et al. (2013) used multiple measures in order to evaluate the competency of teachers, instructional quality, and students' achievement and motivation. The findings produced from this research indicate that the features, such as the teachers' pedagogical content knowledge, enthusiasm for teaching, and self-regulatory skills, positively correlate with the instructional quality, which also influence student outcomes. Borko and Putnam (1995) offer evidence to support the fact that professional development plays an important role in changing teachers' teaching methods and that these changes have a positive impact on students' learning.

Both initial and continuous teacher professional development is essential considering that teaching is demanding and that expectations of teachers have been evolving with time. For example, the growing diversity of learners, school settings

becoming increasingly multicultural and multilingual, inclusion of children with special needs, and the increasing use of information and communication technology (ICT) demand new skills of teachers and new policy initiatives of education systems. According to *Aysel Beydullayeva (ADA University, Azerbaijan)*, the extent to which education providers are aware of the presence of varied instruction design forms is a rising problem in Azerbaijan. Research evidence proves that the use of multiple instructional design models should be considered as a key aspect of delivering high-quality teaching. As such varied instruction design forms exist in order to assist the learning/teaching process and to fulfill the demands of today's students. The presenter reported on the research she conducted to explore the level of teacher awareness of various instruction design models in Azerbaijan. The research findings demonstrated that teachers in private schools are aware of many instructional methods and use them in their teaching practices, for example cooperative learning and problem-based learning. As barriers for implementing various instructional methods, teachers in public schools listed the resistance of some parents towards game-based learning and lack of time and necessary resources.

Learning reading comprehension is a complex process and it requires the enhancement of cognitive skills and metacognitive skills (Blanch, Duran, Flores & Valdebenito, 2012). Teachers' professional development is one of the elements influencing the growth of students' reading comprehension skills, according to the Progress in International Reading Literacy Study (PIRLS) 2011 (Mullis, Martin, Foy, & Drucker, 2012). *Ilaha Rasulova (The Institute of Education of Azerbaijan Republic)* focused on the relationship between teacher instruction and reading comprehension skills at preschool age in her research. The research was aimed to determine the teacher's understanding of the necessity of improving reading comprehension abilities in preschoolers and the techniques for doing so. Research findings indicate that most of the 351 community-based instructors surveyed were unaware of ways to improve the reading comprehension of young children, were aware of the limitation of preschool children's capability to make inferences (Scheiner & Gorsetman, 2007), and never thought about literal and inferential questions to relate to the causal structure of stories (Kleeck, 2008). Based on the research findings, a series of workshops on reading strategies were designed and held to help teachers to change their attitudes towards reading culture at the community-based Early Childhood Education centers.

Building a repertoire of leadership skills is important for teachers. Teacher ability to perform organizational roles and provide leadership within the classroom greatly influences their career. A new teacher's reputation among colleagues, school authorities, and students will be strongly influenced by their ability to perform the managerial functions of teaching, particularly in creating an orderly learning environment and

dealing with student behavior. Dunkin and Biddle (1974) pointed out this important fact over three decades ago when they wrote that “management of the classroom . . . forms a necessary condition for cognitive learning; and if the teacher cannot solve problems in this sphere, we can give the rest of teaching away” (p. 135). *Aytan Suleymanova (ADA University, Azerbaijan)* reported on her research exploring teacher challenges with classroom management. Considering that classroom management plays a vital role in creating an ideal environment for learning, increases students’ academic success, and minimizes unwanted behaviors, it was revealed that many teachers have low awareness of effective classroom management strategies. The author assumes that the research findings must lay a foundation for designing effective teacher training and described three different suggestions for better classroom management: increasing teacher awareness on the importance of a friendly environment and effective communication and reinforcement of positive behaviors, the importance of parental involvement, and clearly defined expectations and consequences of poor classroom management.

The last session of the 4th conference day explained about policy and pedagogy that can enhance teaching practices: textbooks and other resources available, teacher voices heard on the issues of teaching and learning, teacher professional development making teachers aware and giving opportunities for practicing a wide repertoire of teaching approaches, and classroom management strategies. These measures were reported to be needed in order to improve teaching instruction.

Lastly, in the closing session *Professor Gita Steiner-Khamsi, KIX EAP hub Director*, spoke about the success of the four-day conference and reflected on the hope of the team that a new field develops wherein “researchers, government officials, civil society and teacher associations join hands to figure out what works, what should happen, what did not work, and what should be discontinued”. She also thanked everyone who participated in the conference and made it a success.

CONCLUSION

The Synthesis Report for the 4th Day explains how actively and consistently education policymakers, researchers, and educators in the region are involved in improving the effectiveness of teacher education and learning at the various levels of a system, from educational institutions to the classroom level. Obviously, the focus on the region, as well as a language-friendly policy of the 1st KIX Education Policy Innovation Conference “opened a door” to many experts in the region to participate and share, otherwise they remain silent and the work they do invisible.

The five consequent sessions delivered an important message – governments, policy makers, researchers, and educators in the region are united around the agenda to offer effective and meaningful teacher education and professional development to develop teacher competencies, to meet challenges of the 21st century, and to improve teaching instruction and student learning. However, the initiatives aimed to meet the agenda are varied. Some of the approaches reported on Day 4 included diversifying the content and the delivery mode of teacher professional development in the region by attempting to make it less centralized and hierarchical, more school context- and practice-bound, and more school leader- and teacher-initiated, offering ongoing support to teachers, aligning it with the 21st century skills and teacher competencies, developing new resources, and ensuring teacher awareness on important strategies and approaches to enhance teacher instruction and student learning.

The ideas presented in this Synthesis Report were tested to bring about the needed transformative changes and deal with both changes in policies and practices within educational systems in the region and beyond. They are often inspired by internationally-generated ideas; however, they represent a body of knowledge generated locally. They represent research-proven, effective solutions that “require relatively low levels of public investment but have the potential to lead to transformative changes” (UNESCO, 2021) on the way work-based, initial, and in-service teacher professional development operates.

The majority of the presented work are small- or medium-scale innovative projects with evaluations of their effectiveness. Of particular importance is the need to foster a process of “translation” of innovations into a language and understanding of the possible, feasible policy changes that come alongside scaling up these innovations in the region.

An additional message emanating from the process of growing innovations and producing knowledge presented in the targeted thematic area is the need for capacity building at the most critical level – education policy. In other words, “the context will be ripe for wide-ranging transformations, but only if the enabling frameworks are carefully crafted in the transparent, participatory, and fair manner...” (UNESCO, 2021).

The KIX EAP Hub should recognize the need to continue the work on disseminating the innovations with transformative change power in the region and beyond, and should continue to support this.

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