Online International Student Conference

Co-Creating the Future of Education:

Perspectives of Graduate Students

Dates: March 16-17, 2023
Venue: Zoom conference

Organizer:
Degree Programs in Education
Graduate School of Comprehensive Human Sciences,
University of Tsukuba, Japan

Online International Student Conference

“Co-Creating the Future of Education: Perspectives of Graduate Students”

Contents

Foreword

Welcome to the Online International Students Conference 2023! It is our great pleasure to host this conference with graduate students in education from eight partner universities.

Due to the continuing uncertainties caused by the pandemic of Covid-19, cancellations continues in our annual programs for the international exchange of graduate students among partnership universities. This year, however, we have re-started some international exchange programs including CAMPUS-Asia 6. Further, with the great success of the first and second Online International Students Conference in 2021 and 2022, we are privileged to continue and extend the program in a challenging way.

Given the importance of conducting international collaborative research in education, graduate students need to develop global competencies and interdisciplinary perspectives. We invite groups of students to present their proposals for international collaborative research in which they would like to participate based on their research interests and educational situations in their countries. With sharing perspectives, ideas, and questions on each of the theme, the proposal becomes a “seed” that can eventually be a collaborative research project in the future.

As an educational researcher, I believe it is most important that we have mutual understanding with others by not just communicating with each other but expanding and deepening our communication and understanding among differences. In order to cut the chain of hatred and to stop wars, we should understand each other and accept differences. Peace might be arisen from such understanding and acceptance, I believe.

I sincerely hope that this online conference serves as a platform for further collaboration among participants and continuous development of the international exchange among universities beyond the borders of countries as well as an opportunity for our mutual understanding.

Professor Dr. Yoshinori SHIMIZU

Leader of Degree Programs in Education
Graduate School of Comprehensive Human Sciences
Faculty of Human Sciences
University of Tsukuba

Programme

In the 2022 Online International Student Conference (OISC), graduate students from seven universities presented proposals for international collaborative research in education. This year we invite graduate students from different universities to present the possibilities and challenges of educational issues in each country and share their ideas, thoughts, and questions in envisioning the future of education. We will discuss some common themes in the hope of networking and possible collaboration in the future. We hope this online student conference will become a platform for graduate students with diverse ethnic, cultural, linguistic, and disciplinary backgrounds to discuss the potential of developing comparative research in education.

- Dates: March 16th (Thursday) and 17th (Friday), 2023
- Time: 15:30-19:00 JST (15:30-19:00 in Cheongju, 14:30-18:00 in Changchun, 13:30-17:00 in Khon Kaen, 11:30-15:00 in Almaty, 09:30:00-13:00 in Moscow, 07:30-11:00 in Krakow, 19:30 – 23:00 in Christchurch)
- Venue: Zoom conference
- Organizer: The University of Tsukuba, Graduate School of Comprehensive Human Sciences, Degree Programs in Education
- Support: University of Tsukuba, Center for Research on International Cooperation in Educational Development (CRICED)
- Participating universities : University of Tsukuba (Japan), Korea National University of Education (South Korea), Northeast Normal University (China), Khon Kaen University (Thailand), Abai Kazakh National Pedagogical University (Kazakhstan), Moscow City University (Russia), Pedagogical University of Krakow (Poland), University of Canterbury (New Zealand)

Day 1 March 16, 15:30-19:00 JST

Openings

15:30 - 15:35 Opening greetings from UT
15:35 - 15:40 Explanation of conference schedule, presentation rules

Presentations

15:40 - 18:15 Presentations by students

--Presentation 15min (using PPT), Q&A 5min (online), 20min in total per one

1. 15:40 - 16:00 University of Tsukuba (Japan)
2. 16:00 - 16:20 Korean National University of Education (South Korea)
3. 16:20 - 16:40 Northeast Normal University (China)
4. 16:40 - 17:00 University of Canterbury (New Zealand)

17:00-17:15 Break time

5. 17:15 - 17:35 Khon Kaen University (Thailand)
6. 17:35 - 17:55 Abai Kazakh National Pedagogical University (Kazakhstan)
7. 17:55 - 18:15 Pedagogical University of Krakow (Poland)

18:15-18:30 Break time

Wrap-up & Concluding Remarks

18:30 - 18:50 Wrap-up session

18:50 - 19:00 Concluding remarks by organizing side and explanation for the next day

Day 2 March 18, 15:30 – 19:00 JST

15:30 - 15:35 Greetings, Explanation of the works in sessions

Part I 15:35 - 17:10 Discussion in break-out sessions

Session 1: COVID-19 and ICT education

Session 2: Teachers' rights

Session 3: Digital transformation and education

Session 4: Entrepreneurship and education

Session 5: STEM education

Session 6: Higher education and professions

Session 7: Teachers' competencies

-- Participants could choose the session(s) and participate in the discussion

15:35 - 16:20 Discussion 1

16:20 - 16:25 Break time (participants could move to different breakout sessions)

16:25 - 17:10 Discussion 2

17:10 - 17:20 Break time

Part II General discussion in major meeting room

17:20 – 17:55 Sharing of discussion points from each session (5 min each)

17:20 - 17:25 Session 1, presentation

17:25 - 17:30 Session 2, presentation

17:30 - 17:35 Session 3, presentation

17:35 - 17:40 Session 4, presentation

17:40 - 17:45 Session 5, presentation

17:45 - 17:50 Session 6, presentation

17:50 - 17:55 Session 7, presentation

18:00 - 18:30 Q&A, discussion, networking in breakout sessions
(Through Part II questions and comments will be accepted in chat)

18:30 - 18:50 Comments from faculty representatives of each university

18:50 - 19:00 Closing address from the organizing side

University of Tsukuba

University of Tsukuba

The development of ICT in Japanese Schools and Universities: The influence of Covid-19.

Glukhova, Polina
Saigan, Takuya
Shuji, Okuda

1. ICT Development in Schools and Universities through the Pandemic

Before the pandemic, the ICT environment in public schools was underdeveloped. MEXT tried to expand ICT education systems in 2000-2010, but it was failed due to lack of budget. On the other hand, the ICT environment in Japanese higher education has been developed. Many universities have been equipped with wireless local area network and Learning Management System. However, their ICT systems were usually used without online classes(MEXT 2015:11, MEXT 2019:4).In February 2020, due to COVID-19, schools and universities were required to implement online classes. In higher education, universities implemented online classes through the LMS, Zoom, etc from April 2020. In public schools, online classes were offered with support of 'GIGA (Global and Innovation Gateway for All) school program'. The pandemic led to the promotion of the implementation of online classes.

2. ICT environment in Schools

In public schools, the GIGA School Program is promoting the maintenance of ICT environments (MEXT 2021). Various educational effects can be expected from an ICT environment. For instance, it is expected to realize individually optimized learning, collaborative learning, more efficient school management, and effective learning support using educational data. The program has made significant progress because of COVID-19. The number of devices per student has exceeded 1 in 2022 (MEXT 2022). On the other hand, in public education, we have entered a new phase regarding ICT. There were many operational problems due to the rapid development of the ICT environment when ICT was first implemented. However, recent studies have shown that operational problems have been decreasing and utilization issues have been increasing (Ogura et al.2022).

3. ICT environment in Japanese Universities

In 2020, in order to prevent the spread of COVID-19 the implementation rate of distance learning using ICT at Japanese universities rapidly increased (MEXT, 2020). Two main types were introduced: "real-time" and "on-demand". However, even when the pandemic is almost over, online classes remain as one of the options (Sugino, C.2021). This is because students prefer having scheduling opportunities, self-paced learning, spending less money and time for

commuting, broader networking opportunities. As a result, education using ICT was reevaluated. Nevertheless, the new models of distance learning may change the role of instructors and lead to many challenges such as inability to focus on screens, ineffective time management, lack of verbal communication, not receiving clear instructions or expectations. Hence it is important for Universities to improve classes by taking advantage of the merits of each method, rather than by choosing between face-to-face and online courses (Yamada, A. 2022).

4. Discussion questions

Since Pandemic, both school and university levels have developed a well-established environment for online classes. The next challenge is to figure out in what form (as a main-teaching method or as an optional one) online classes should be provided in schools and universities.

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The Development of ICT in Japanese Schools and Universities: The Influence of COVID-19

GLUKHOVA POLINA SAIGAN TAKUYA OKUDA SHUJI

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ICT development in Japanese Schools: before Pandemic

Lack of Computers in School

In 2019, the number of students per computer in a school was 5.4(MEXT 2019:4).

Non-Use of ICT in School

In 2018, 80% of Japanese students did not use digital devices in school lessons any time(NIER 2019:9-10) .

Before pandemic, ICT environment was underdeveloped in Japanese schools.

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ICT development in Japanese Higher Education : before Pandemic

Use LMS in Higher Education

Many universities and colleges were equipped with wireless local area network and Learning Management System（AXIES 2016:17,21).

Lack of Online Classes

In 2015, about 25% of Japanese universities and colleges implemented online classes using ICT systems(MEXT 2015:11).

- Before pandemic, ICT environment was developed in Japanese higher education,
- but they are used without online classes.

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ICT development Triggered by Pandemic

In 2020, schools, universities and colleges were closed.

- Public schools started online classes.
  - ‘GIGA school program’
- Universities and Colleges started online classes.
  - LMS, Zoom, etc.

(Sato 2020: 66, Iiyoshi 2021:11-12)

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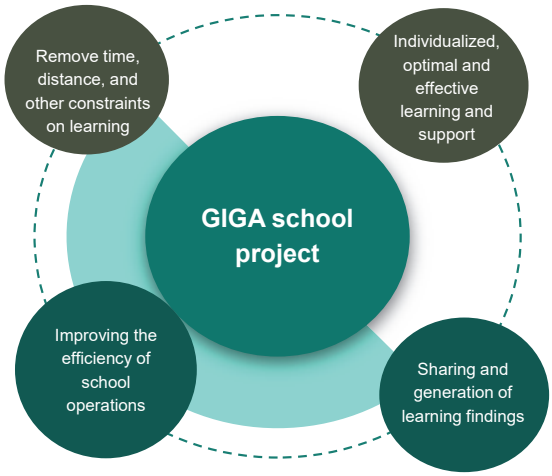
GIGA(Global and Innovation Gateway for All) school program

In Japan, a five-year plan (FY 2018-2022) to improve the environment for ICT in education has been formulated, and one device per student and a high-speed, large-capacity communication network have been being maintained in primary and secondary education.

In addition, an examination of their achievements and problems is planned until 2024.

(MEXT 2021)



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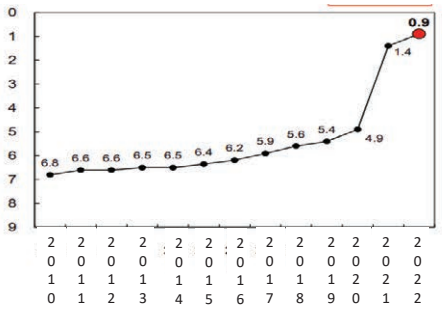
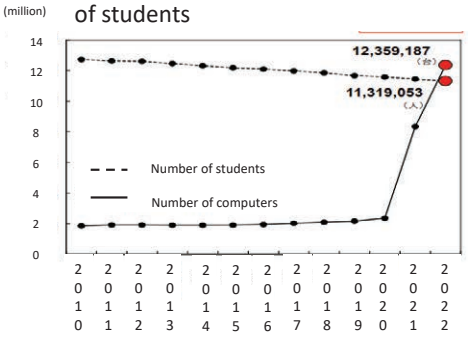
Changes in the Status of ICT Environments

- Adoption rate of ICT equipment in each school has been increasing rapidly since the 2020s (MEXT 2022).

Number of students per educational computer



Number of Educational Computers and Number of students



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Awareness of problems

Change in awareness of issues (Teachers)

Ogura et al. (2022) conducted a qualitative study from mid-April 2021 to mid-February 2022.

April - June	July - October	November - February
The ratio of awareness of each issue in the initial and mid-term was about **half of the total awareness of utilization and operation.**		It was found that awareness of issues related **to utilization increased in the second half of the year**..

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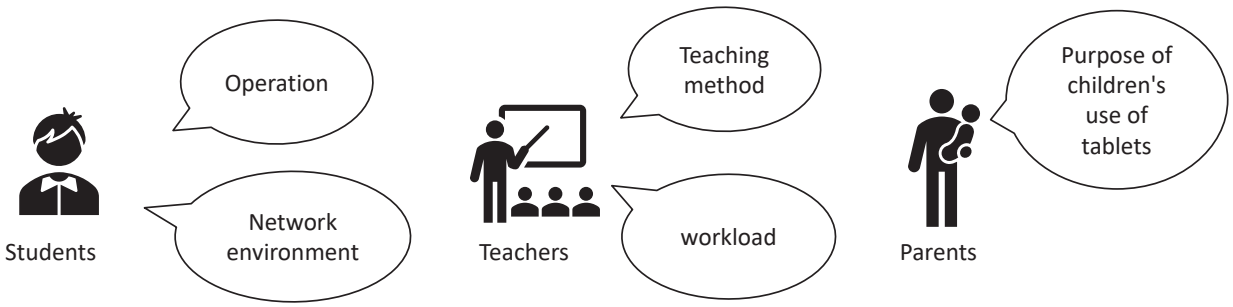
Awareness of problems

☐ Awareness of problems faced by each educator

Results of the Questionnaire to Educators on the GIGA School Project and its Future Direction (Digital Agency, MIC, MEXT, METI 2021)



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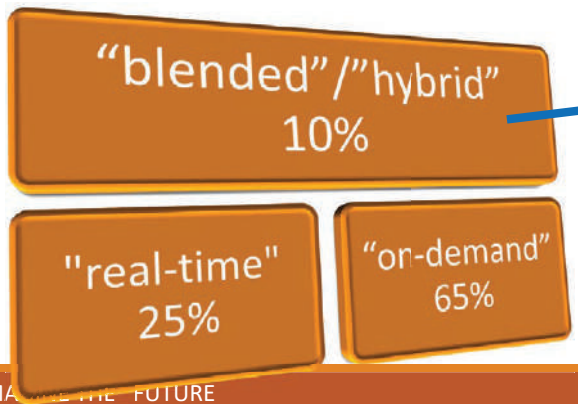
The influence of the pandemic on the implementation of ICT at Japanese Universities

In 2020 the implementation rate of distance learning using ICT rapidly increased (as of June 1, 2020 90.0% implemented MEXT, 2020)



Nowadays even when the pandemic is almost over, online classes remain as one of the options
(“blended”/”hybrid” type is leading)

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Why do online classes still remain at Universities?: Advantages

- scheduling opportunities (flexibility)
- self-paced learning
- spending less money and time for commuting (students do not have to live on campus, or rent an apartment near the school/university)
- broader networking opportunities (international teams)

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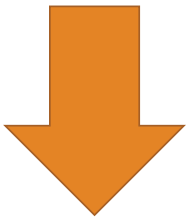
Why do online classes still remain at Universities?: Disadvantages

- inability to focus on screens
- ineffective time management
- lack of verbal communication
- not receiving clear instructions



it is important for Universities to improve classes by taking advantage of the merits of each method, rather than by choosing between face-to-face and online courses.

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Discussion Points

Online classes should be provided in schools and universities as ・・・

- a main-teaching method
- an optional teaching method
- other ・・・

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Korea National University of Education

Korea National University of Education

Importance of Protecting Teachers' Rights and Educational Activities: By exploring the cases in Korea

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KIM, Hyo-eun
LEE, Se-young
SHIN, Chang-gi

This study is conducted with the purpose to figure out actual states and implications of measures in terms of teachers' rights infringement in Korea. It is known that as schools reopened ending the closure due to the pandemic, the number of teachers' right infringement cases deliberated in the committees has been increasing constantly (Department of Teacher Policy, 2022). According to Hwang (2016), teachers tend to retire from their jobs early since they considered they felt devastated when they heard about or experienced teachers' right infringement such as conflicts with students and parents related to their discipline. Also, young generation students show a low preference for teachers as they regard the working conditions of schools as poor (E-daily, 2023, Dec 16). Likewise, the issues of teachers' right infringements are likely to affect teacher retention. To guarantee better working conditions for teachers and education systems, proper solutions are needed promptly. Therefore, the research question is raised as follows:

What can be discovered as implications of ways devised to protect teachers' rights based on types of agencies?

To conduct this study, researchers reviewed relevant papers and materials that dealt with measures implemented currently in Korea and analyzed them into the framework in terms of types of agencies in charge of solving the issues about teachers' right infringement including national aspects, local governments of education, and schools. The results of the analysis follow:

First, when it comes to laws that define the protection of the teachers' rights, several measures are stated such as offering legal advice and counseling support. To overcome the weak points that the existing laws have in terms of ambiguous explanation of subject that infringes on teachers' rights (Choi, Yeom, Lee, and Kim, 2016), 'Elementary and secondary education act' was amended recently stating that teachers' discipline activities are legitimate and students shall respect the teachers' activities.

Second, 17 local governments of education implement the policies such as establishing

teachers' authority protection committees in both each school and within themselves. Hopefully, it is reported that the committees are going to be expanded to be established in regional offices of education. Teachers' authority protection committees play a significant role by investigating cases, mediating issues, and making judgments. Moreover, there are other measures of local governments of education including the establishment of teacher recovery support centers and the operation of legal aid teams.

Third, among different efforts of schools, P elementary school is known for operating monthly meetings for teachers who had a hard time dealing with students voluntarily and informally. According to a teacher who was involved in the meeting, she said that by sharing the adversities related to teachers' right infringement, the teachers could construct a special bond among them and it was crucial for teachers to be encouraged.

Finally, the head of schools shall provide the education for the protection of teachers' rights to teachers, staff, parents, and students at least once a year. Educators could access abundant materials developed by research institutes.

With analysis of the measures, it could be concluded that the efforts of society and educational systems are increasing to guarantee the protection of teachers' rights and activities. Still, there are some recommendations such as more attention to prevention rather than punishment, revolutionary approaches to reforming social norms, and devoted middle liners like principals who are likely to concern with teachers' suffering.

Importance of Protecting Teachers' rights and Educational Activities

Korean National University of Education

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Research Interests
-Teacher Personnel System

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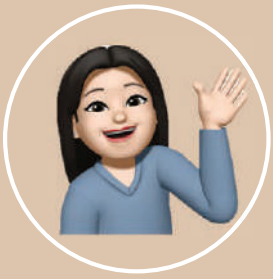
Research Interests
-Education Policy



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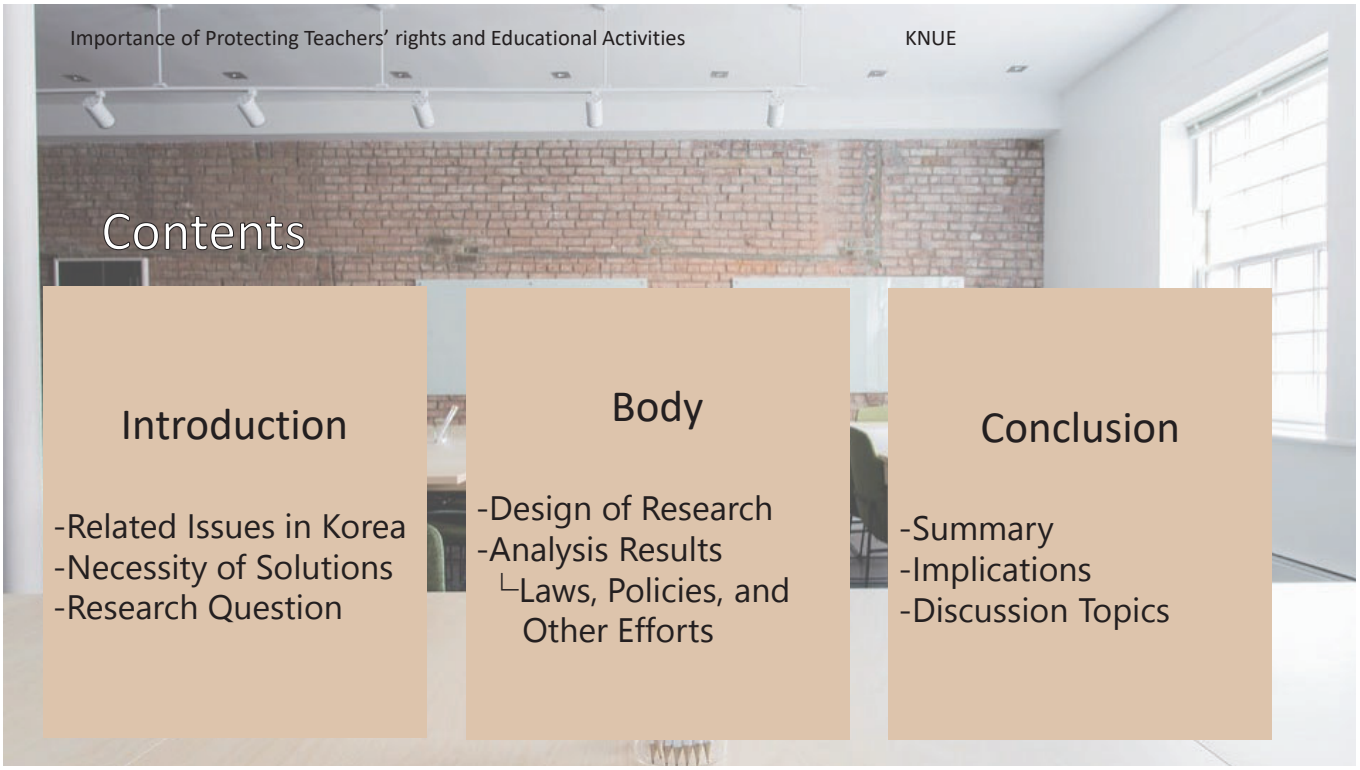


Teachers' right Infringement Issues

Getting severe since the pandemic ends and school re-opened

Year	2019	2020	2021	First semester in 2022
Number of cases	2662	1197	2269	1596

Source: Department of Teacher Policy, 2022.12.27

01

Teachers' right Infringement Issues

Nevertheless, teachers in Korea tend not to take proper actions because there are some parents and students who do not agree with teachers' discipline, and they are likely to respond in hostile even suing teachers

02

Teachers' right Infringement Issues

Negative influence on teacher retention

03

Teachers' right Infringement Issues

Increasing necessity for solutions

Recommendations
from the researchers

Quality education requires teachers to work in secure conditions

Source: Han, 2022

Teachers' voices
via Teachers associations

Source: Kukinews, 2018.11.27.

Research Question

What Can Be Discovered As Implications of Ways Devised to Protect Teachers' right Based on Types of Agencies?

Definition of Terms

Teachers' rights

As educators, teachers could conduct educational activities to promote students' growth.
As professions, teachers' socioeconomic status could be guaranteed in secure.
As human beings, human dignity should be guaranteed.

Source: Kim, 2019

Types of teachers' right infringement

violence, insulting, sexual harassment, obstructions, threats, destructions, unreasonable interference, etc.

Source: Department of Teacher Policy, 2022.12.27.

06

Design of Research

Method

Analysis based on papers about relevant laws and policies, and personal experience

Analysis framework

According to types of agencies engaged in teachers' right protection

Nation	Laws
Local government of education	Policies
School	Cultures

07

Results-Legal Aspect

'Special Act on the Improvement of Teachers' Status and the Protection of Their Educational Activities'

Including the way how to protect the teachers
i.e., legal advice, investigation, special leave of absence

Not effective enough because other agencies' actions in terms of teachers' right infringement are not defined, still controversial(Choi, Yeom, Lee, and Kim, 2016)

Results-Progress in Legal Aspect

Several actions were amended and established on Dec. 27, 2022.
- Teachers' discipline activities are specified as rights

'Elementary and Secondary Education Act'
-Article 18-4(Guarantee of Human Rights)
②A student shall not engage in any act that violates the human rights of faculty members or other students.
-Article 20-2(School Guidance)
The head of the school and teachers may guide students as prescribed by the newly established laws and school regulations, if necessary for protecting students' human rights and teachers' educational activities.

Source: Department of Teacher Policy, 2022.12.27.

Results-Policy Aspect

Establishment of Teachers' authority Protection Committees in schools and local governments of education expanding in regional offices of education
- investigation, mediation, judgement

Establishment of Teacher Recovery Support Centers in several cities
- psychological counseling and advice, educational materials

Operation of Legal Aid Team
- Legal counseling offered by specially hired lawyers

10

Results-Case of P Elementary school

Operation of voluntary and informal meeting for tired teachers

- sharing each other's story and experience considering teachers' right infringement
- held in once a month after working hour
- significant role of principal: financial support for this meeting sustainable, prompt action on necessary issues

11

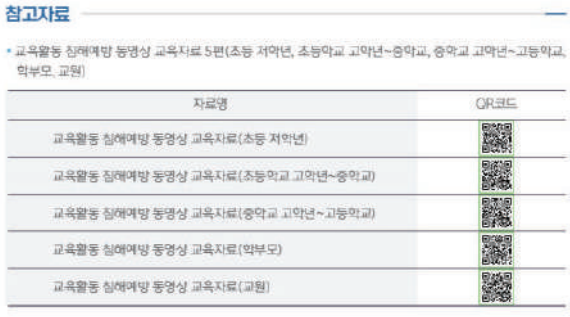
Results-Case of P Elementary school

Operation of voluntary and informal meeting for tired teachers

One teacher said:
"The monthly meeting attendance made me keep working as a teacher because I realized that my situation was not derived from my inability or faults. And I could understand how challenging the situations other colleagues faced are. Teachers who involved in this meeting could learn the power of bonds in the school."

Results-Education

The head of school should provide school members(teachers, parents, staffs) and students with education to prevent teachers' right infringement at least once a year.



참고자료

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자료명	QR코드
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교육활동 침해예방 동영상 교육자료(초등학교 고학년~중학교)	
교육활동 침해예방 동영상 교육자료(중학교 고학년~고등학교)	
교육활동 침해예방 동영상 교육자료(학부모)	
교육활동 침해예방 동영상 교육자료(교원)	

Video materials for prevention education from teachers' right infringement are provided based on the targets like elementary students, secondary students, parents, and staff.

Source: KEDI, 2022

Summary

Agency	Measures
Nation	Laws state that teachers have legal rights to provide guidance to students and imply that teachers' activities should not be disturbed
Local government of education	Policies are devised to help teachers who suffer from the stress of teachers' right infringement -Teachers' authority Protection Committees -Teacher Recovery Center -Legal Aid Team
School	Voluntary meeting encouraged a culture of trust

Expect Effects

Those approaches seem to be dedicated to establishing a solid foundation for teachers' discipline activities
-expanding the resources utilized for support
-making teachers access easy to support system

Recommendations

Approaches to prevention are needed to be developed rather than punishment

More efforts are necessary to reform the social norms and climates

Middle liners such as principals are asked to be more contributed to teachers' suffering

16

Discussion Topics

1. How do your people think of the issues of teachers' right infringement in your country?

2. Is there any other element should be considered significantly to protect teachers' rights?

17

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Northeast Normal University

Northeast Normal University

Digital Transformation of Rural Education: Value, Challenges and Approaches

XU, Jia
ZHANG, Huan
TAN, Mei

With the continuous development of new digital technologies, digital transformation has become one of the important directions of education reform in various countries, and China is also continuously promoting the strategy of digital transformation of education. As an important part of the digital transformation of education, the digital transformation of rural education is of great significance to promote the digital transformation of the whole society. However, due to the long-term influence of China's urban-rural dichotomy, there are huge differences between urban and rural areas in terms of education funding, teaching resources and teacher strength, making the digital transformation of rural education difficult.

The digital transformation of rural education is of great value in narrowing the gap between urban and rural education, promoting educational equity, realising the internal development of rural education, accelerating the integration of urban and rural education, and helping to revitalise the countryside. At present, the digital transformation of rural education in China faces many difficulties, such as the relatively backward construction of rural infrastructure and the imbalance in the allocation of educational facilities; the relative lack of information technology skills of educational personnel; and the single source of funding for digital construction, etc.

In order to solve the dilemma of the digital transformation of rural education, a reasonable development path needs to be formulated. Specifically, firstly, we need to build and improve the institutional system; secondly, we need to improve the mechanism for training digital talents in rural education; thirdly, we need to deeply explore the nurturing value of vernacular culture. With these efforts, we have reasons to believe that the digital transformation of rural education can achieve leapfrog development, promote the sustainable development of rural education, and thus promote the modernisation process of China.

东北师范大学
Northeast normal university

Digital Transformation of Rural Education: Value, Challenges and Approaches

About us

Xu Jia
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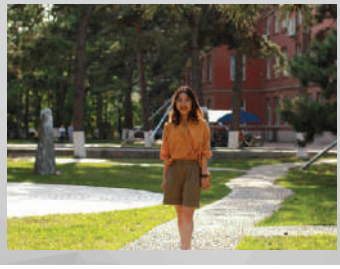

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CONTENT

Part One

1. Introduction

东北师范大学 Northeast normal university

"With the rapid development of new generation digital technologies such as **Big Data, AI, and 5G,** digitally driven change and development has become a worldwide theme, and digital transformation of education has become an important strategic direction for all countries.

As part of the Digital China Strategy, it has become a national strategy to promote the digital transformation of education in China, and there are several landmark achievements of the China Education Digital Transformation Strategy 2022 initiative."

2022 China Education Digital Transformation Strategy Timeline

In January	In February	in March,	In April and July	In October
The National Education Work Conference proposed the implementation of the Education Digitalization Strategy Initiative	The Ministry of Education's 2022 Work Highlights was released, making work plans for the implementation of the Education Digitalization Strategy Initiative;	the National Public Service Platform for Smart Education went online; in April and July	the Ministry of Education deployed two rounds of local and school pilots of the national smart education platform. In	the report of the 20th Party Congress explicitly called for promoting the digitization of education and building a learning society and learning nation with lifelong learning for all.

Rural education has become the "difficult point"of China's education digitalization strategy.

However, while the digital transformation of education has spread from universities to primary and secondary schools, and in almost all areas of education practice, **"rural education"** has become the **"difficult point"** of **China's education digitalization strategy.** Due to the long-term influence of China's urban-rural dual structure, the infrastructure in rural areas is backward and the network coverage is insufficient, so the digital transformation of rural education is difficult. However, as an important part of the digital transformation of education, the digital transformation of rural education is of great value to promote the digital transformation of the whole society.

The Value of Digital Transformation of Rural Education

Value

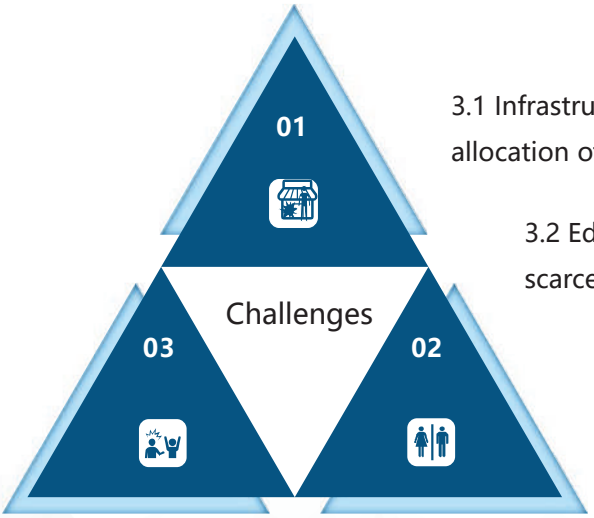
1.Narrowing the gap between urban and rural education and promoting educational equity

2.Realising the internal development of rural education and accelerating the integration of urban and rural education

3.Helping rural revitalisation

第 7 页

3. Challenges



3.1 Infrastructure construction is relatively backward, the allocation of educational facilities is out of balance

3.2 Education informationization talent is relatively scarce

3.3 Funding for digital construction comes from a single source

Infrastructure construction is relatively backward, the allocation of educational facilities is out of balance

In 2020,67.3 percent of rural primary schools have campus networks,17.2 percentage points lower than urban primary schools. In China, 77.4 percent of junior middle schools set up campus networks, including 74.1 percent in rural areas,12.6 percentage points lower than urban junior middle schools.

campus networks

A study on the spatial distribution characteristics of educational facilities in China in 2020 shows that the allocation of educational facilities in central China, Southwest China, Northwest China and Northeast China is seriously unbalanced. The allocation of educational facilities in East China is in an absolute dominant position, while that in South China and North China is at a medium level.

the spatial distribution of rural educational infrastructure

In terms of the supply quality of basic education digital resources, the content quality of digital education resources supplied by teachers in western China is worse than that in eastern and central China.

terms of the supply quality of basic education digital resources

Education informationization talent is relatively scarce

01 A study found that less than 30% of teachers in remote and poor areas can effectively use information technology in class.

02 According to the survey,63.44% of rural students nationwide have never had online learning experience before, and the participation rate of rural students in online teaching during the epidemic was only 91.93%.

03 In terms of course offering rate, Chinese, mathematics and foreign language were the highest,98.30%,98.10% and 89.56%, respectively. Physical education, art, music, information technology and other courses are less than 50% open.

04 During the epidemic period,40.44% of students felt anxious about online teaching, and only 55.09% of students were satisfied with online teaching.

Funding for digital construction comes from a single source

Compared with rural areas, the digital construction of urban education can attract a lot of social capital in addition to government funds. However, due to the relatively low added value of the digital construction of rural education, it is difficult to attract social capital that prefers to pursue profits. It is difficult to effectively guarantee the speed of the digital construction of rural education only depending on financial funds.

4、Approaches

01

Build and improve the institutional system

02

Improve personnel training mechanism of the rural digital education

4、Approaches

03

Tap the hidden value of rural culture

东北师范大学 Northeast normal university

Discussion

What problems has your country encountered in the digital transformation of education?

And how have they been solved?

第 14 页

THANK YOU

University of Canterbury

University of Canterbury

***Pashe Achhi*: A Telecommunication-based Early Childhood Development (ECD) Model for Caregivers and Children in Crisis Situation**

Khan, Mohammad Safayet

Pashe Achhi is a telecommunication model that emerged out of the COVID-19 pandemic in Bangladesh to provide support to 0-5 years old children and their caregivers through mobile-to-mobile phone calls. It is a caregiver-child facing and/or only caregiver focused low-resource low-tech model which constitutes a 20-minute phone call. The phone calls include a 10-minute psychosocial support segment to caregivers and a 10-minute stimulation segment to their children through play. After the initial development period during COVID-19, this model will be tested further and evaluated in the context of extreme poverty. A mixed method study design using both qualitative and quantative method will be used to test the efficacy of the model. Qualitative method includes In-Depth Interview (IDI) with the study participants before, during and after the interventions. An experimental study design using randomized assignment of the treatment and comparison group will also be used for the evaluation of the intervention. Through these processes, the model will be refined and developed further which has implications for scalability as an ECD solution during crisis situations and in terms of ECD access to children of ultra-poor households.

Sustainable entrepreneurship education for agriculture undergraduates: A comparative case study between Sri Lanka and New Zealand

Wanodya, W. G. M. Udari

The concerns about sustainable development is becoming important in current context with the United Nations (UN) initiatives. Sustainable Development Goals (SDGs) are in frequent discussions when developing a sustainable future. Education for Sustainable Development (ESD) introduced by the UN holds a significant role in achieving SDGs. Concurrently, world statistics about unemployment, specially youth unemployment rate is increasing, where universities can contribute significantly to reduce unemployment in the society. Teaching sustainable entrepreneurship is one of the initiatives that universities can contribute towards reducing youth unemployment whilst promoting sustainable development. However, the scholars argue, the education has to be student-focused and provide more opportunities for the students to gain the knowledge through quality experiences. Therefore, this study focuses on how to teach sustainable entrepreneurship in Universities. Specially focusing on teaching sustainable entrepreneurship for agriculture undergraduates.

The proposed study will be based on the concept of Experiential Education introduced by John Dewey (1938). Itin (1999)'s Diamond Model for experiential education will be used to explore how the learning environment, subject matter, teacher, student, and teaching process will contribute in teaching sustainable entrepreneurship. A comparative case study will be conducted between one University each from Sri Lanka and New Zealand. This will follow social constructivism and gather information through multiple groups of individuals including faculty members, students and alumni. Numerical as well as qualitative data will be collected cross-sectionally through purposive sampling. Documental records, archives, observations, and interviews will be considered as the main data collection methods. The collected data will be analysed using Nvivo software. At the end of the study, it is expected to provide suggestions on how & what type of experiential education techniques could be incorporated into Sri Lankan and New Zealand university education for sustainable entrepreneurship.

Bio of the presenters

Mohammad Safayet Khan is a Doctoral student at the School of Educational Studies and Leadership, University of Canterbury, New Zealand. He is also a Research Fellow and Faculty Member at the Institute of Educational Development, BRAC University, Bangladesh. He obtained three Master's Degrees in the field of Biological Sciences, Resource Management and Educational Assessment, Measurement and Evaluation from Bangladesh, Norway and Australia respectively. In his academic and research career Safayet has been able to publish 15 articles in peer reviewed journals and have been awarded with several scholarships and research grants. His main area of research interest is in impact evaluation of educational programs and Early Childhood Development (ECD).

Udari Wanodya is a Doctoral Student at the School of Educational Studies & Leadership, University of Canterbury, New Zealand. She has a Bachelor of Honours Degree in Applied Sciences, Masters in Business Administration and holds the Associate Membership (ACMA-UK) at the Chartered Institute of Management Accountants (UK). Udari has work experience in both industry and academia, with experience in lecturing and academic administration in higher education institutes and professional education providers for more than 05 years. Currently, she works as a youth worker/mentor in New Zealand on community campuses and high schools. Udari also works with Shaping Horizons, Argentina at the Innovations & Education team as a UN Volunteer, working on sustainable development related projects.

***Pashe Achhi*: A Telecommunication-based Early Childhood Development (ECD) Model for Caregivers and Children in Crisis Situation**

Mohammad Safayet Khan
Ph.D. Student
School of Educational Studies and Leadership
Faculty of Education

Supervisors:
Dr. Billy O'Steen
Faculty of Education
Dr. Arindam Basu
Faculty of Health

Background

- As of the end of 2021, 36.5 million children worldwide had been displaced as a consequence of conflict and violence (Unicef, 2022)
- Nearly half of all the children (One billion) live in extremely high risk countries where they are exposed to the most severe hazards, shocks and stressors (Unicef, 2021).
- Globally 200 million children under 5 years of age fail to reach their cognitive development potential due to poverty (Grantham-McGregor et al., 2007)
- A child's mental health is supported by parents but 1 in 14 children has a caregiver with poor mental health (Wolicki et al., 2021)

Source: Reuters

Source: Unicef

Source: Unicef

Source: AFP

The Context of Pashe Achhi Intervention

- *'Pashe Achhi'* (*Beside You*) is a tele-communication model that combines psychosocial support with learning through play approaches
- Through various phases of uncertainty during the COVID-19 pandemic, using tele-communication helped us to stay connected with the front liners, caregivers and the children
- Caregivers receive a phone call once a week based on a 20 minute tele-conversation script.

Research Goals and Objectives

- The aim of this research is to leverage on the experience of running *Pashe Achhi* during 2020 to extend this among the vulnerable segments of the population particularly those who are deprived of quality ECD services

  - Test the efficacy of *Pashe Achhi* model to promote the developmental outcomes of children through play-based learning and ensure caregiver wellbeing

Research Goals and Objectives

Continued

Key Research Questions

1. Whether 0-5 years children's age appropriate cognitive and socio-emotional development could be obtained by weekly one phone call for 6 months (24 calls in total)
2. Does tele-counselling services have any impact on reducing caregiver's depression and increasing their self-esteem
3. Whether caregivers and facilitators ECD related knowledge, attitude and practice changed due to the service?

Methods

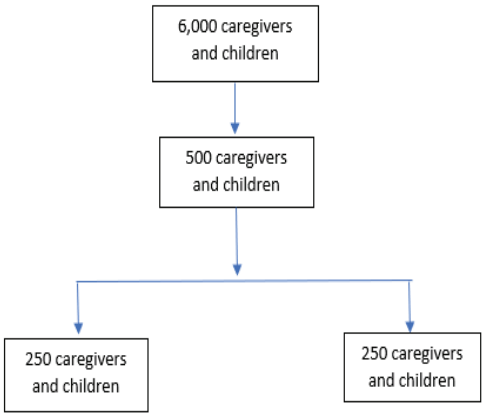
Population, Location and Sample Size

This research will be conducted in Northern Part of Bangladesh where there is higher prevalence of ultra-poor population

The population of study will be 500 caregivers and children of 0-5 years of age in two Upazilas (Sub-districts) of Bangladesh

A Randomised Control Trial (RCT) including both treatment and control group will be used in this study

30 facilitators will be selected randomly for In-depth qualitative Interview (IDI)



Research Instruments

Research Tools:

1. Ages and Stages Questionnaire- 3 (ASQ3) for measuring cognitive development of children
2. Ages and Stages Questionnaire- Socio-Emotional (ASQ-SE) for measuring children socio-emotional development
3. Patient Health Questionnaire (PHQ) for measuring Caregiver depression
4. Rosenberg Self-Esteem Scale for measuring caregivers' self-esteem

Sustainable entrepreneurship education for agriculture undergraduates

A comparative case study between Sri Lanka and New Zealand

Presented by – Udari Wanodya
Doctoral Student - Faculty of Education,
University of Canterbury, New Zealand

Supervisors – Dr. Billy O'Steen - Associate Professor of Community Engagement, UC, NZ
Dr. Nadeera Ranabahu - Senior Lecturer in entrepreneurship and innovation, UC, NZ

Introduction

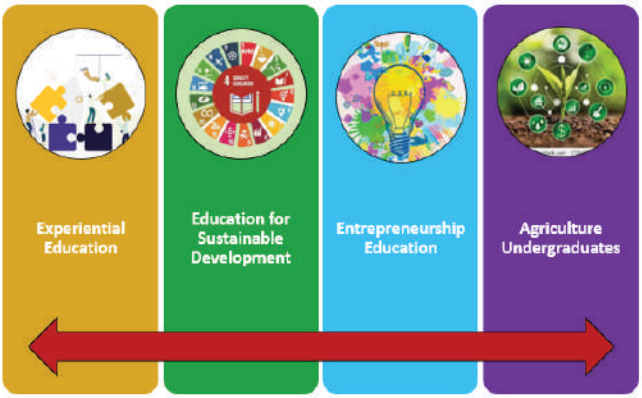


Figure 1 – Related concepts

Figure 2 – UN's Sustainable Development Goals

11

Theoretical background

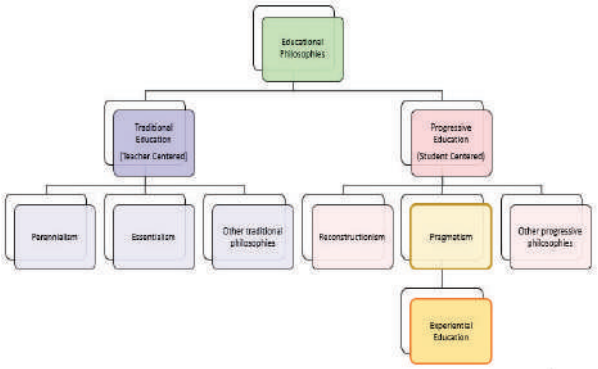


Figure 3 – Evolution of experiential education

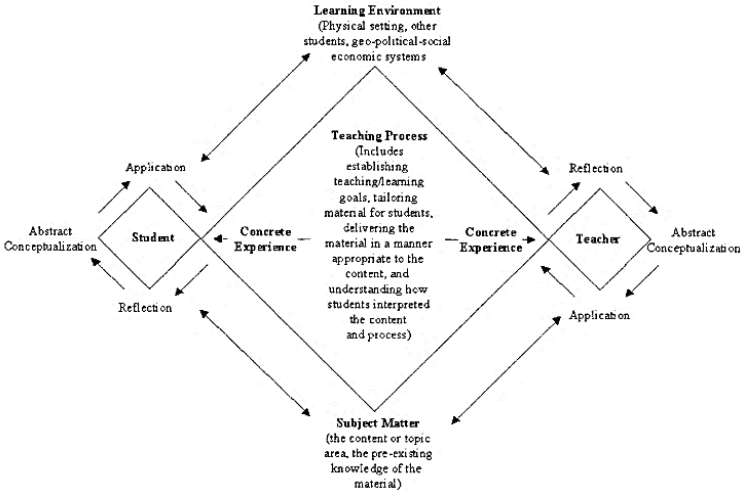


Figure 4 – Diamond Model for Experiential Education *(Itin, 1999)*

12

Research Questions

Overall Research problem - what and how can sustainable entrepreneurship be taught at universities for undergraduates at non-business-related degree programmes ?

Table 1 – Research objectives & research questions

Specific research objective	Research question
To understand and explore the current education for sustainable agriculture entrepreneurship in Sri Lanka and New Zealand universities	**RQ1 –** What & how SL universities teach sustainable entrepreneurship for agriculture undergraduates enrolled in BSc Agriculture degree programmes?
	RQ2 – What & how NZ universities teach sustainable entrepreneurship for agriculture undergraduates enrolled in BSc Agriculture degree programmes?
To synthesize the use of experiential education in agriculture undergraduate education for sustainable entrepreneurship	**RQ3 –** How & what type of experiential education techniques could be incorporated into Sri Lankan and New Zealand university education for sustainable entrepreneurship?

13

Research Methodology

- A comparative case study will be conducted between one University from Sri Lanka and New Zealand.
- The study will follow social constructivism and gather information through multiple groups of individuals
- Numerical & qualitative data will be collected.
- Data collection is cross-sectional through purposive sampling.
- The collected data will be analysed using Nvivo software.

14

Sampling and Data Collection

Sub-unit	Sample selection criteria
Current students	Being an undergraduate student currently studying the selected degree programme + completed a course module related to entrepreneurship / business
Teaching faculty	Currently teaching a course module related to entrepreneurship / business to the selected degree programme
Alumni	Being an alumnus of the selected degree + graduated after 2017

Table 2 – Summary of Sampling strategy

Table 3 – Data collection process

Phase	Data collection methods	Sources of data collection	Data storage methods
1 (Orientation and overview)	Documents and archival records	University websites, academic meeting reports, course materials, student handbooks, course outlines, teaching slides/notes, learning outcomes, related question papers	Electronic PDF files, Bookmarks, printed materials (if required)
2 (Focused exploration)	Observations, non-verbal gestures, and interviews	Physical artifacts, recorded sessions, in-depth interviews	Electronic PDF files, audio and video records, photographs
3 (Member checks and closure)	Member-checks	Former informants of the study, counterpart individuals	Electronic PDF files

15

Expected contribution

- To provide suggestions on

"how & what type of experiential education techniques could be incorporated into Sri Lankan and New Zealand university education for sustainable entrepreneurship".

16

Any Questions?

Khon Kaen University

Khon Kaen University

Improving student's representations on electricity in pandemic era

Boonmak, Wilaiporn
Huntula, Jiradawan

The Model-based inquiry was used through online learning platform during pandemic era to improve grade 11 student's representations of electricity through model-based inquiry. The action research was implemented in this study with two action research loops to improve student's representations. There were six lesson plans consisting of lesson 1-3 in loop one and lesson 4-6 in loop two of action research loops. The representation test was employed as data sources before and after implementation. The student's representations were interpreted and grouped into five levels based on Kozma and Russell (1997) consisting of 1) Representation as Depiction 2) Early Symbolic Skills 3) Syntactic Use of Formal Representations 4) Semantic Use of Formal Representations 5) Reflective Rhetorical Use of Representations. The quality of representations was classified into tree levels, fair, good, and very good based on Jaber & Boujaoude (2012), and Wang (2007). The results showed that after teaching and learning by using model-based inquiry the level of student 'representation was improved by model-based inquiry.

The students' problem-solving through STEM activities

Soikum, Kanchanok
Huntula, Jiradawan

This research aims to study students' problem-solving skills in the STEM activity applying concept physics to solve problem in STEM activity. The students started from the problem providing for students to solve following STEM activity and they were encouraged more to integrate Science, Technology Engineering Design, and Mathematical concepts to apply to solve the problem. The students were grade 10 students. The student's learning during was recorded by VDO recording, student worksheet and work piece were analyzed by the rubric score to identify problem-solving processes consisting of four levels: excellent, good, fair, and poor. There are five dimensions of problem-solving process consisting of: Useful Description,

Physics Approach, Specific Application of Physics, Mathematical Procedures, and Logical Progression. The results found that students' problem-solving processes are excellent in Useful Description, good in Physics Approach, good in Specific Application of Physics, good in Mathematical Procedures, and excellent in Logical Progression. Therefore, in solving problems students need the guide tool to apply the physics approach and specific physics concepts to solve problems.

THE STUDENTS' PROBLEM-SOLVING PROCESS OF GRADE 10 STUDENT THROUGH OPEN APPROACH.

Sansook, Pisit
Huntula, Jiradawan

The aim of this study is to study the student's problem solving of sixty Thai students in grade 10. They were encouraged to think through the Open Approach strategy which focuses on giving students the opportunity to think about their problems and take action to solve problems by themselves (Inprasitha, M.; 2004). The Open Approach strategy composes of four phases (Inprasitha, M.; 2010) 1) Posing Open-ended problem, in the first phase teacher assigns students to create a tool for verifying that 10-baht coins have the same weight 2) Students' self-learning through problem-solving by themselves 3) Whole class discussion and comparison 4) Summarization through connecting students' ideas in the classroom. The problem in this study is applying the concept of rotational equilibrium to create a tool for verifying that 10-baht coins, under the constraint of only limited equipment being supplied. The students' problem-solving processes were analyzed from the worksheet and the presentation by using a rubric score consisting of three levels: good (7-9 score), moderate (4-6 score), and poor (0-3 score). The worksheets and VDO recording were analyzed on 3 topics about rotational equilibrium: the fulcrum, the distance, and how to know 10-baht coins have the same weight.

The results found that 50% of 11 students can apply the specific physics concept at a moderate level in solving problems. In addition, we found that three groups of students used concepts such as pulleys and rope tension to create tools.

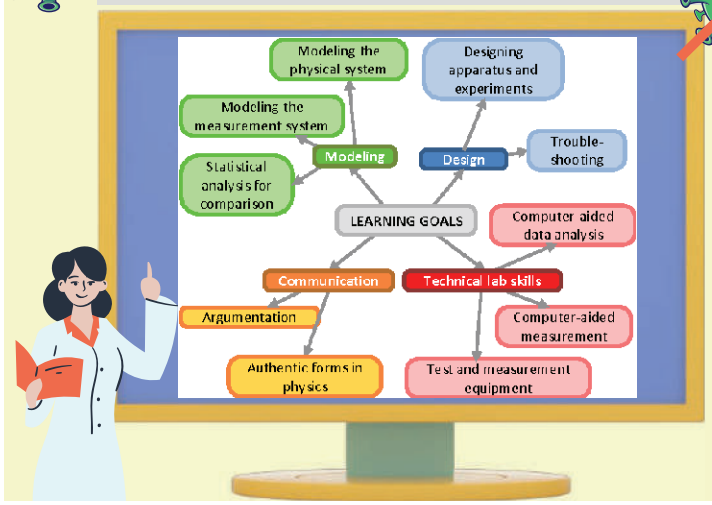
IMPROVING STUDENT'S REPRESENTATIONS ON ELECTRICITY IN PANDEMIC ERA

Miss Wilaiporn Boonmak
Master's degree in Science Education Program
Faculty of Education, Khon Kaen University
Khon Kaen, Thailand

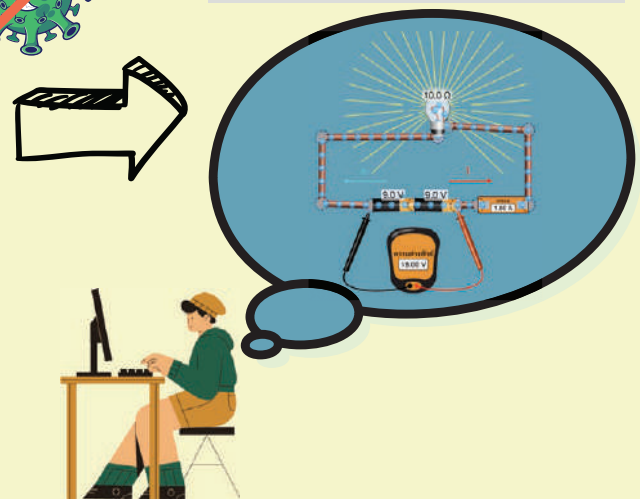
Introduction

1

THE MODEL-BASED INQUIRY WAS USED THROUGH ONLINE LEARNING PLATFORM DURING PANDEMIC ERA



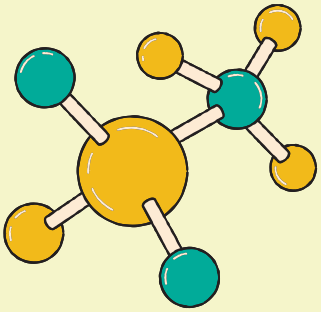
STUDENT'S REPRESENTATIONS ON ELECTRICITY



Methodology

Representation

3

Macroscopic Level	Microscopic Level	Symbolic Level
		→ P = IV V = IR

Methodology

Data collection

4

Pre-representation test

Loop 1

Loop 1	Hours
Lesson 1) Ohm's law	2
Lesson 2) electric resistivity and conductivity	2
Lesson 3) resistor connection	2

work sheet

Loop 2

Loop 2	Hours
Lesson 4) electrical energy and potential difference	2
Lesson 5) electrical energy and electric power	2
Lesson 6) battery connection	2

Post-representation test

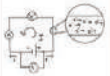
Methodology

Data Analysis

5

Rubric score

Level of Representation	Characteristics	Quality		
		fair	good	very good
1) Representation as Depiction.	Students show macroscopic level of representations to describe physical phenomena.	able to represent at the macroscopic level but not correct. Ex. 	able to represent macro-level accurately but not completely. Ex. 	able to represent macro-level accurately and completely. Ex. 
2) Early Symbolic Skills	Students show macroscopic level and symbolic level of representations to describe physical phenomena.	not able to represent at the macroscopic level and symbolic level or able to represent only at the symbolic level. Ex. 	able to represent at the macroscopic level and symbolic level accurately but not complete. Ex. 	able to represent macro-level and symbolic level accurately and completely. Ex. 

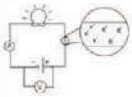
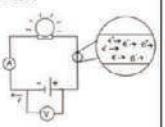
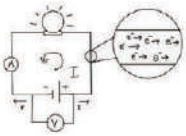
Level of Representation	Characteristics	Quality		
		fair	good	very good
3) Syntactic Use of Formal Representations	Students show macroscopic level and microscopic level of representations to describe physical phenomena.	not able to represent at the macroscopic level and microscopic level or able to represent only at the microscopic level. Ex. 	able to represent at the macroscopic level and microscopic level accurately but not complete. Ex. 	able to represent macroscopic level and microscopic level accurately and completely. Ex. 
4) Semantic Use of Formal Representations	Students show symbolic level and microscopic level of representations to describe physical phenomena.	able to represent at the microscopic level and symbolic level but not correct. Ex. 	able to represent at the microscopic level and symbolic level accurately but not complete. Ex. 	able to represent microscopic level and symbolic level accurately and completely. Ex. 

Methodology

Data Analysis

6

Rubric score

Level of Representation	Characteristics	Quality		
		fair	good	very good
5) Reflective Rhetorical Use of Representation	Students show macroscopic level symbolic level and microscopic level representations to describe physical phenomena.	able to represent at the macroscopic level, microscopic level and symbolic level but not correct. Ex. 	able to represent at the macroscopic level, microscopic level, and symbolic level accurately but not complete. Ex. 	able to represent macroscopic level, microscopic level, and symbolic level accurately and completely. Ex. 

Research finding

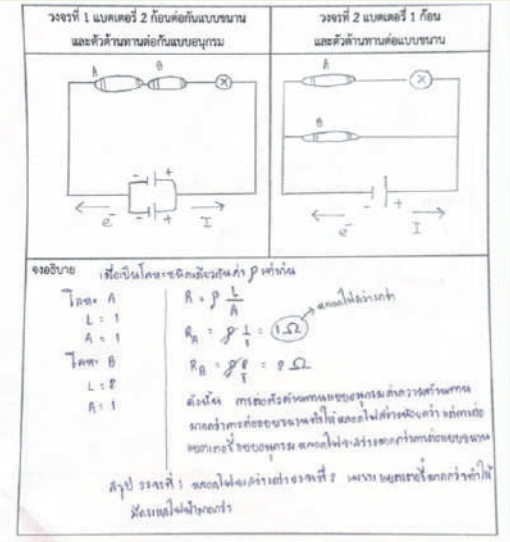
7

TABLE 1. SHOWS PERCENTAGES OF STUDENTS IN EACH REPRESENTATIONAL COMPETENCE LEVELS ON THE ELECTRICITY IN THE REPRESENTATION TEST.

Test	Level of student's representation															
	Level 0	Level 1			Level 2			Level 3			Level 4			Level 5		
		fair	good	very good	fair	good	very good	fair	good	very good	fair	good	very good	fair	good	very good
pre-test	75	5			20											
post-test											8	21		71		

Research finding

8



Level 5 Fair

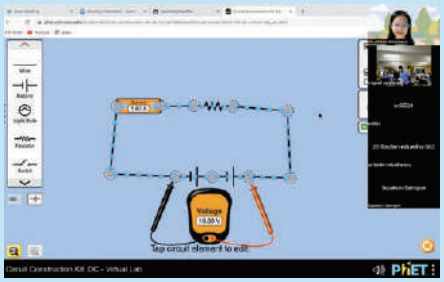
STUDENTS ABLE TO REPRESENT AT THE MACROSCOPIC LEVEL, MICROSCOPIC LEVEL AND SYMBOLIC LEVEL BUT NOT CORRECT TO DESCRIBE PHYSICAL PHENOMENA.

Conclusion & Discussion

9

Conclusion

THE RESULTS SHOWED THAT AFTER TEACHING AND LEARNING BY USING MODEL–BASED INQUIRY THE LEVEL OF STUDENT 'REPRESENTATION WAS IMPROVED BY MODEL–BASED INQUIRY.



Reference

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Johnstone A. The development of chemistry teaching: A changing response to changing demand. Journal of Chemical Education. 1993; 70(9), 701–705.

Kozma R, Russell J. Multimedia and understanding: Expert and novice responses to different representations of chemical phenomena. Journal of Research in Science Teaching, 1997; 43(9), 949-968.

Wang, C.Y. (2007). "The Role of Mental-Modeling Ability, Content Knowledge, and Mental Models in General Chemistry Students' Understanding about Molecular Polari," Dissertation for the Doctor Degree of Philosophy in the Graduate School of the University of Missouri. Columbia.

The students' problem-solving through STEM activities

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Introduction 1

Activity Implementation 2

Activity Implementation 3

Activity Implementation 4

Data analysis 5

A problem-solving rubric with application to physics

	3 excellent	2 good	1 Fair	0 Poor
USEFUL DESCRIPTION	Students able to explain how a walking monster can and cannot walk ready to specify the reason.	Students able to explain how a walking monster can and cannot walk but the reasoning is unrelated to the gait described.	Students able to explain how a walking monster can and cannot walk but it is unable to determine the reason.	Students are unable to explain how a walking monster can and cannot walk and unable to determine the reason.
PHYSICS APPROACH	Students able to identify the Center of Mass, Center of Gravity, Friction and Gravity from walking monsters.	Students were able to identify at least two of the centers of mass, center of gravity, friction, and gravity from the walking monster.	Students are able to identify at least one Center of Mass, Center of Gravity, Friction, and Gravitational Force from a walking monster.	Students are unable to identify the Center of Mass, Center of Gravity, Friction and Gravity from walking monsters.
SPECIFIC APPLICATION OF PHYSICS	Students able to relate the Center of Mass, Center of Gravity, Friction, and Gravitational force from walking monsters.	Students are able to link the Center of Mass, Center of Gravity, Friction and Gravity from making at least two walking monsters.	Students are able to link at least one of the Center of Mass, Center of Gravity, Friction, and Gravitational Forces from making one walking monster.	Students unable to associate the Center of Mass, Center of Gravity, Friction and Gravity from walking monsters.
MATHEMATICAL PROCEDURES	Students able to relate all the slopes, angles, and characteristics of two legs that are parallel.	Students able to relate at least two slopes, angles, and characteristics of two parallel legs.	Students able to relate at least one aspect of the slope, angle, and characteristics of two legs that are parallel.	Students are unable to relate the slope, angle, and characteristics of the two legs that are parallel.
LOGICAL PROGRESSION (Reference from Engineering Design Process)	Students able to Problem Identification, Related Information Search, Solution Design, Planning and Development, Testing, Evaluation and Design Improvement, Presentation that spawns walking monsters at every step.	Students able to Problem Identification, Related Information Search, Solution Design, Planning and Development, Testing, Evaluation and Design Improvement, Presentation that spawns walking monsters in at least 3 steps.	Students able to Problem Identification, Related Information Search, Solution Design, Planning and Development, Testing, Evaluation and Design Improvement, Presentation that spawns walking monsters in at least 1 step.	Students are unable to Problem Identification, Related Information Search, Solution Design, Planning and Development, Testing, Evaluation and Design Improvement, Presentation that spawns walking monsters.

Docktor J., Dornfeld J., Frodermann E., Heller K., Hsu L., Jackson K., Mason A., Ryan Q., Yang J. (2016).

Results

6

Problem - solving ability	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10	Results
USEFUL DESCRIPTION	3	2	3	2	3	3	3	3	3	3	3
PHYSICS APPROACH	2	1	1	1	2	2	2	2	2	2	2
SPECIFIC APPLICATION OF PHYSICS	2	1	2	1	2	2	2	2	2	2	2
MATHEMATICA LPROCEDURES	2	1	2	1	2	2	2	2	2	2	2
LOGICAL PROGRESSION	3	2	3	2	3	3	3	3	3	3	3

Conclusion

7

In solving problems students need the guide tool to apply the physics approach and specific physics concepts to solve problems.

Reference

- Docktor J., Dornfeld J., Frodermann E., Heller K., Hsu L., Jackson K., Mason A., Ryan Q., Yang J. (2016). Assessing student written problem solutions: A problem-solving rubric with application to introductory physics. Physical Review Physics Education Research, (2016), 12(1).
- Jung, E. (2021). STEAM Convergence Class Lesson Plan Through Making Walking Monster and Playing Racing Gam. UNESCO UNITWIN Online Content. Korea: Industry-Academic Cooperation Foundation in Korea National University of Education.
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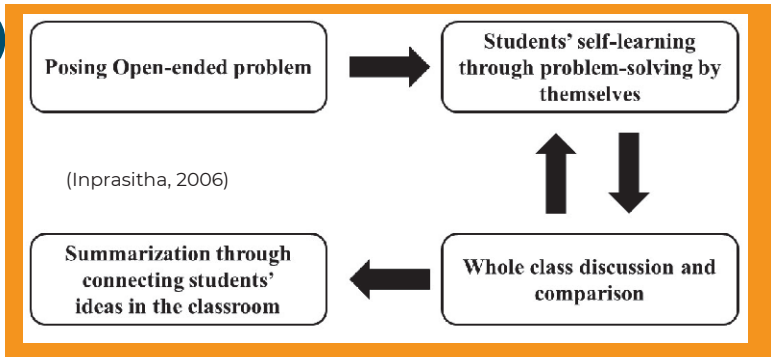
THE STUDENTS' PROBLEM-SOLVING PROCESS OF GRADE 10 STUDENT THROUGH OPEN APPROACH.

MR.PISIT SANSOOK

Science Education Program, Khon Kaen University, Thailand

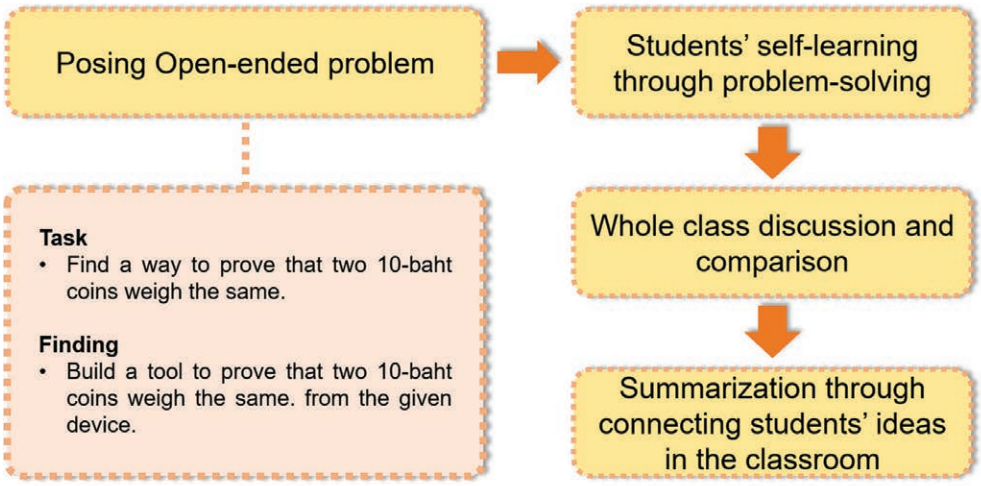
1

Introduction



2

Activity Implementation



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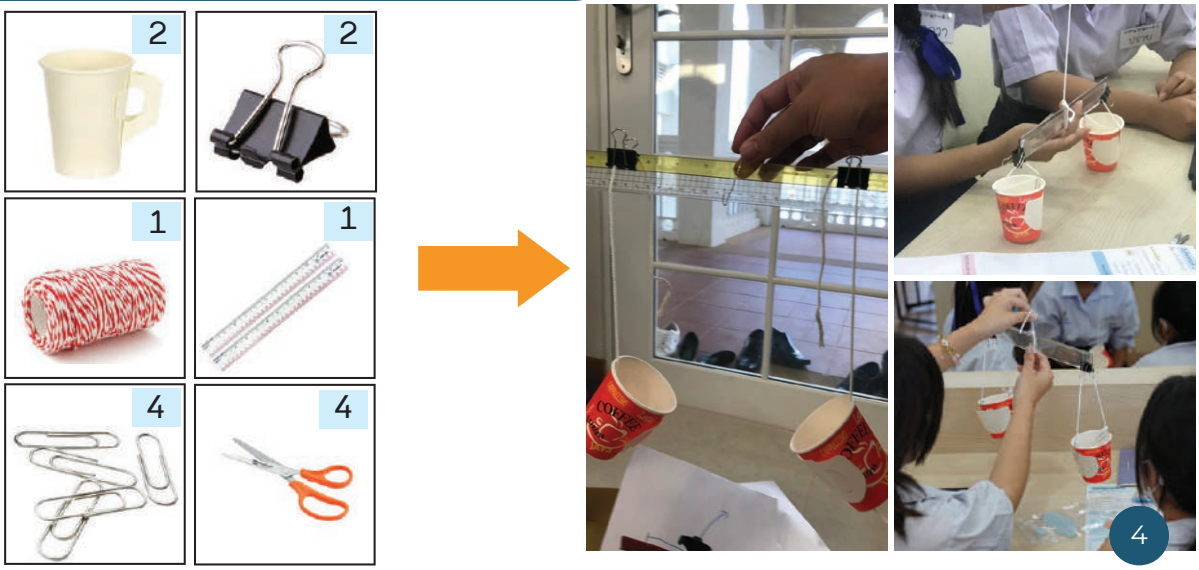
Activity Implementation



Data analysis

basic concepts	level 3 (3 Point)	level 2 (2 Point)	level 1 (1 Point)	level 0 (0 Point)
fulcrum	-Use the concept of fulcrum or fulcrum positions -Explain about the importance of the fulcrum and explain the position of fulcrum.	-Use the concept of fulcrum or fulcrum positions - Explain that the fulcrum position in the center of the beam.	- not explain the concept of fulcrum and fulcrum positions.	- not explain the concept of fulcrum and fulcrum positions.
distance between weight and fulcrum	-Showing the position of the coin is the same distance from the fulcrum and explain the concept that the distance from fulcrum on both sides of the lever.	- Showing the position of the coin is the same distance from the fulcrum or explain the concept that the distance from fulcrum on both sides of the lever.	-Create equal spaced tools - Does not refer to the distance from the fulcrum to the coin's position.	-Creates tools regardless of the distance from the fulcrum. - The distance from the fulcrum to both sides of the coin is not equal.
The error of equipment	- Explaining "how to balance the lever" and "how to reduce error of experiment"	- Explaining "how to balance the lever"	- Explaining about "how to reduce error of experimental" such as fix the position of coins.	- Not explain "how to balance the lever" and error of experiment.

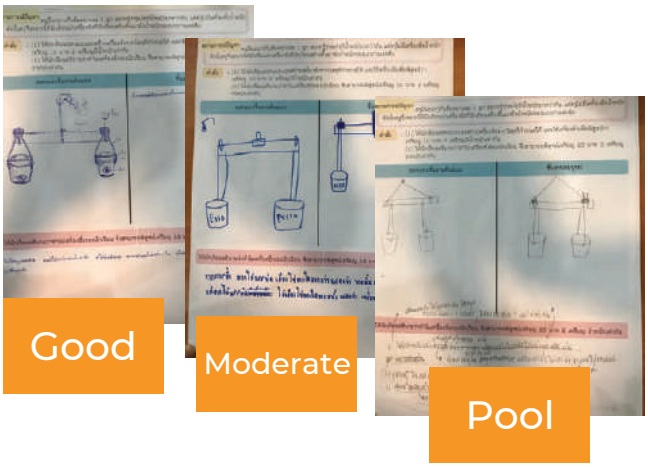
5

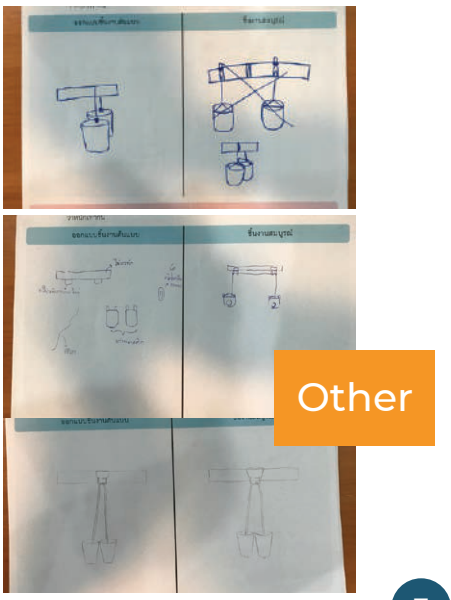
Results

Group	fulcrum	distance to fulcrum	The error of equipment	Total	*note	quality
G1	2	1	1	4		Moderate
G2	3	1	1	5		Moderate
G3	0	0	0	0	used concepts pulleys	-
G4	2	1	1	4		Moderate
G5	1	1	1	3		Pool
G6	0	0	0	0	used concepts rope tension	-
G7	3	3	1	7		Good
G8	3	3	1	7		Good
G9	3	2	1	6		Moderate
G10	0	0	0	0	used concepts pulleys	-
G11	3	2	1	7		Good

6

Results





7

Conclusion

The results found that 50% of 11 students can apply the specific physics concept at a moderate level in solving problems. In addition, we found that three groups of students used concepts such as pulleys and rope tension to create tools.

8

Reference

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9

Abai Kazakh National Pedagogical University

Abai Kazakh National Pedagogical University

Training future primary school teachers for professional activities through orientation to business innovation

Balginbayeva Nurzhaugan

Today, the paradigm of education has changed, the content of education has been updated, and a new approach to education is emerging. Changes taking place in the field of education are widely opening the way for various transformations. Innovation in education is the most important notion. In the current educational system, social, industrial, economic processes and conditions are not deeply taught in the training of future teachers. Increasing entrepreneurial literacy from the primary school is an economically rational and relevant, necessary measure. We need specialists who have received special economic training from higher educational institutions with sufficient motivation. Thus, ways of considering preparation for professional activities through business-innovation are a relevant issue. In this regard, while orienting future teachers to entrepreneurship, the main goal is to educate and develop an enterprising, creative person who is eager to learn entrepreneurship, and to form his internal readiness for the potential of business organization and implementation.

The business-innovative educational system directly prepares future teachers for professional entrepreneurship, creates a new enterprise, and directs them to successful career. In addition, training of the younger generation in entrepreneurship from primary school will be under the leadership of these specialists. .

Training on the basis of business orientation is the process of acquiring entrepreneurial knowledge and skills, developing business qualities of an individual and accumulating experience in business organization, necessary for successful socialization of a competent specialist in the future professional activity. Nowadays, training for professional activity by orientation to business-innovation forms important professional qualities of future teachers (individualism, initiative, creativity, purposefulness, the ability to plan one's own activities), professional competences (social and personal, communicative, psychological, informational, managerial, entrepreneurial education). In this way, formation of the business-innovative knowledge of the teacher begins with his innovative activity. Innovative activity means the introduction of innovative ideas and innovative methods by the teacher in the educational process, based on his professional experience, the conditions of the educational institution.

It is important to teach business from elementary school in accordance with modern requirements. A business-oriented teacher can teach specialized courses in schools and vocational schools, and can also organize a small educational enterprise. Based on personal initiative and the understanding that entrepreneurship is not limited to just finding a job, but also contributes to finding a place for a person, builds respect for him and opens the way to

true innovation, looking for the necessary steps to make the world a better place . Based on business innovation,there should be noted that young teachers who have received education should have sufficient motivation and up-to-date skills for future pedagogical work, organization of small business in educational institutions. In this regard, the effectiveness of the training of future teachers in the innovative educational space of the university aimed at business innovation is ensured by a set of pedagogical conditions. One of the most important tasks in the education system is to bring the level of professional education of future teachers to high international level by moving to innovative education.

Picture of the Higher Education of the Future

Ruslan Aitkyzhin

Annotation: This article discusses the situation of higher education today and a look into the future. The issue of work in the specialty, graduated from universities in recent years, is considered. It also offers solutions to motivate students by selecting applicants with the help of psychological tests for the orientation of the future profession. The choice of students in acquiring skills or scientific work is considered.
Key words: postgraduate work, structure of education, orientation of applicants, work with high school students at school.

Over the past year, the ratio of graduates of universities of the Republic of Kazakhstan and employed is more than half. Nevertheless, there are fewer graduates employed in their specialty, more than half do not work according to their education. In many aspects, it depends, both on the applicants and their choice, and on the parents of future students, the second half is the expectation of employers and the skills of students.
We also conducted a study based on surveys of school students, where we raised important questions about entering universities.

On the basis of this sample, we can notice that, in general, graduates are satisfied with both the training system and the acquired knowledge that they already use in the workplace, but at the same time we see their need for practical training. This survey also fails to provide a picture of the state of student learning across the country, as it was conducted at only one university, research in this area is still ongoing.

But if we analyzed the situation with schoolchildren and made sure that they make the choice themselves, and more than half of the graduates are satisfied with the education they received, there is only one link that prevents graduates from working in their specialization, and that is employers. There are too few surveys to build a picture of what

criteria and how employers recruit new personnel, work is still underway on this issue. But nevertheless, having found a “damaged wire” in this system, we know where to start and offer such a picture of Higher Education in the future.

When an applicant enters a university, he passes a mandatory psychological test, which helps him in the final decision whether to study in a particular specialization. And also, on the basis of the test, he is offered variations of specialties that are most suitable for him.

The Ministry of Education, together with the scientific staff of the country, the teaching staff of universities, are developing a training plan. Further refinement and corrections are made by entrepreneurs, school directors and other heads of industries, offering their own criteria for exams, types of practical classes. Those entrepreneurs and heads of industries who actively participate in the development of a training plan and contribute their ideas and proposals receive bonuses from the state as motivation (tax reduction, recruitment of the best graduates who need to work out a state grant, etc.)

Universities on a regular basis after graduation on a mandatory basis (anonymously) are asked about the quality of the acquired knowledge, skills, etc. to identify weaknesses and make decisions about new teaching methods. Once every few years, graduates of previous years are invited to take a survey on how their career progresses, how skills and knowledge help them in the workplace, and what academic hours turned out to be unnecessary and did not affect their lives in any way.

As a result, we want to say that if all these points are observed, the modern labor market and education will be able to change for the better, because the modern world is built on the shoulders of dialogue, and if we have honest feedback and new proposals, then the system can regulate itself themselves, without the intervention of the bureaucracy and the state, which can save a huge amount of time and resources.

THEME: "TRAINING FUTURE PRIMARY EDUCATION TEACHERS FOR PROFESSIONAL ACTIVITIES THROUGH ORIENTATION TO BUSINESS-INNOVATION"

Balginbayeva N.E.
2nd year doctoral student of Abai University

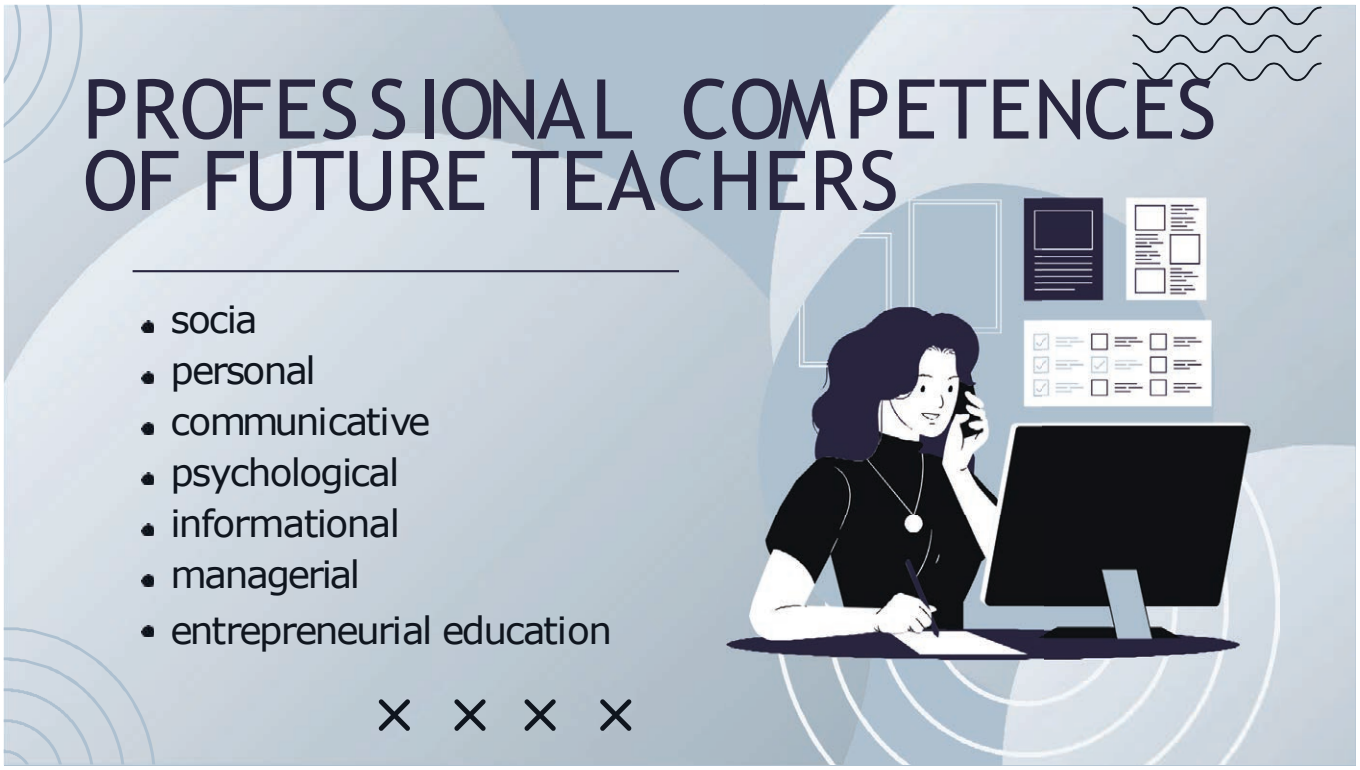
Increasing entrepreneurial literacy from the primary school is an economically rational and relevant, necessary measure. We need specialists who have received special economic training from higher educational institutions with sufficient motivation. Thus, ways of considering preparation for professional activities through business-innovation are a relevant issue.

In this regard, while orienting future teachers to entrepreneurship, the main goal is to educate and develop an enterprising, creative person who is eager to learn entrepreneurship, and to form his internal readiness for the potential of business organization and implementation.

Business-innovative educational system

prepares for

- Professional entrepreneurship
- Small business in educational institutions
- International level of education



It is important to teach business from elementary school in accordance with modern requirements. A business-oriented teacher can teach specialized courses in schools and vocational schools, and can also organize a small educational enterprise. Based on personal initiative and the understanding that entrepreneurship is not limited to just finding a job, but also contributes to finding a place for a person, builds respect for him and opens the way to true innovation, looking for the necessary steps to make the world a better place .

Based on business innovation,there should be noted that young teachers who have received education should have sufficient motivation and up-to-date skills for future pedagogical work, organization of small business in educational institutions. One of the most important tasks in the education system is to bring the level of professional education of future teachers to high international level by moving to innovative education.

INNOVATIVE BUSINESS CLUB

SMART COACH

TO PREPARE FUTURE TEACHERS FOR PROFESSIONAL AND ENTREPRENEURIAL ACTIVITIES

Innovative club "SMART COACH" works on the principle of co-working:

- **basic training for future teachers;**
- **partner companies hold intensive sessions and meetings with our students;**
- **practices for the development of personal qualities and entrepreneurial thinking allow for a complete immersion in learning and skills training;**
- **coaching sessions that are aimed at developing professional and entrepreneurial activities.**

PURPOSE:

Ensure the development of business-innovative knowledge and skills in the field of professional activity

COMPETENCIES:

Professional and organizational

CONTENT

- Conceptual framework for studying business innovation
- Professional activity of a teacher
- Entrepreneurial culture
- Business incubators and projects in education
- The main problems of innovative small business
- The role of teachers in the development of small business.

Thanks for your attention!

Annotation

This article discusses the situation of higher education today and a look into the future. The issue of work in the specialty, graduated from universities in recent years, is considered. It also offers solutions to motivate students by selecting applicants with the help of psychological tests for the orientation of the future profession. The choice of students in acquiring skills or scientific work is considered.

Over the past year, the ratio of graduates of universities of the Republic of Kazakhstan and employed is more than half. Nevertheless, there are fewer graduates employed in their specialty, more than half do not work according to their education. In many aspects, it depends, both on the applicants and their choice, and on the parents of future students, the second half is the expectation of employers and the skills of students. The Ministry of Education of the Republic of Kazakhstan is working on the issue of employment, on the one hand, with the help of a grant processing system, on the other hand, with the help of the "Atlas of new professions and competencies of Kazakhstan" created

Higher education as a supermarket of professions

Today's picture of obtaining a profession differs from the medieval picture, both in the scientific and material side, and in the choice of specialization. If only 400 years ago a person living in a hierarchical society could not afford to choose a profession and followed the path of his parents and ancestors, today a modern person can become anyone, depending on his preferences and vision of his own life scenario. Thanks to the Bologna process and the credit system of education, a student can choose teachers, compulsory and additional disciplines. As never before, applicants have the freedom of choice. But in today's age of digitalization, higher education institutions have a competitor - the market.

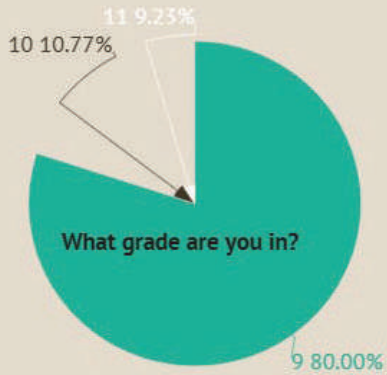
Universities do not have time to introduce new specialties, and these professions are taken over by online schools, conducting special courses and trainings. For example, this is how business coaches, fitness trainers, online teachers for learning languages, master classes for working in the future profession of service personnel, and so on. The value system as to where to get an education is changing. If the main criterion, due to which applicants chose not private institutions, but state ones, was a diploma, then today this criterion for many professions disappears, as employers increasingly began to look not at the scientific degree of a new employee, and the number of hours spent within the walls of an educational institution, but on his social intelligence, knowledge and skills that the employer needs. The big question is how to compete with such a market attitude in the education system?

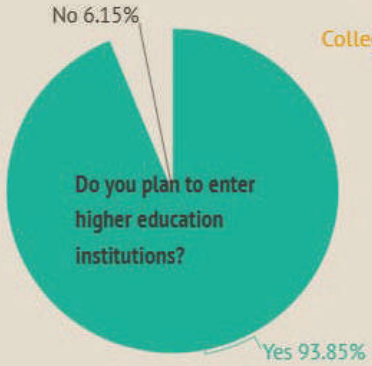
Profession choice mechanism

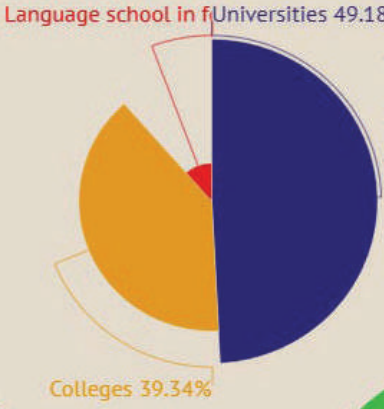
In order to resolve this issue, one should turn to how professions are chosen by high school students who are just finishing school. Let us turn our attention to this study, conducted among students in grades 9-10-11.
We assume that a large percentage of the choice of profession depends on the parents of schoolchildren, financial capabilities and the desired salary. Accordingly, if a person's value system, his preferences and work are not taken into account, as a result, we cannot get a highly qualified worker from a graduate.
In the data provided by the Ministry of Education of the Republic of Kazakhstan, we can see that only 70 percent of graduates are employed after graduation, and only 40 percent of them work in their specialization.

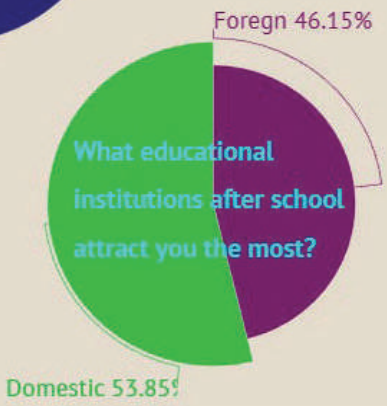
Prezi

We also conducted a study based on surveys of school students, where we raised important questions about entering universities.

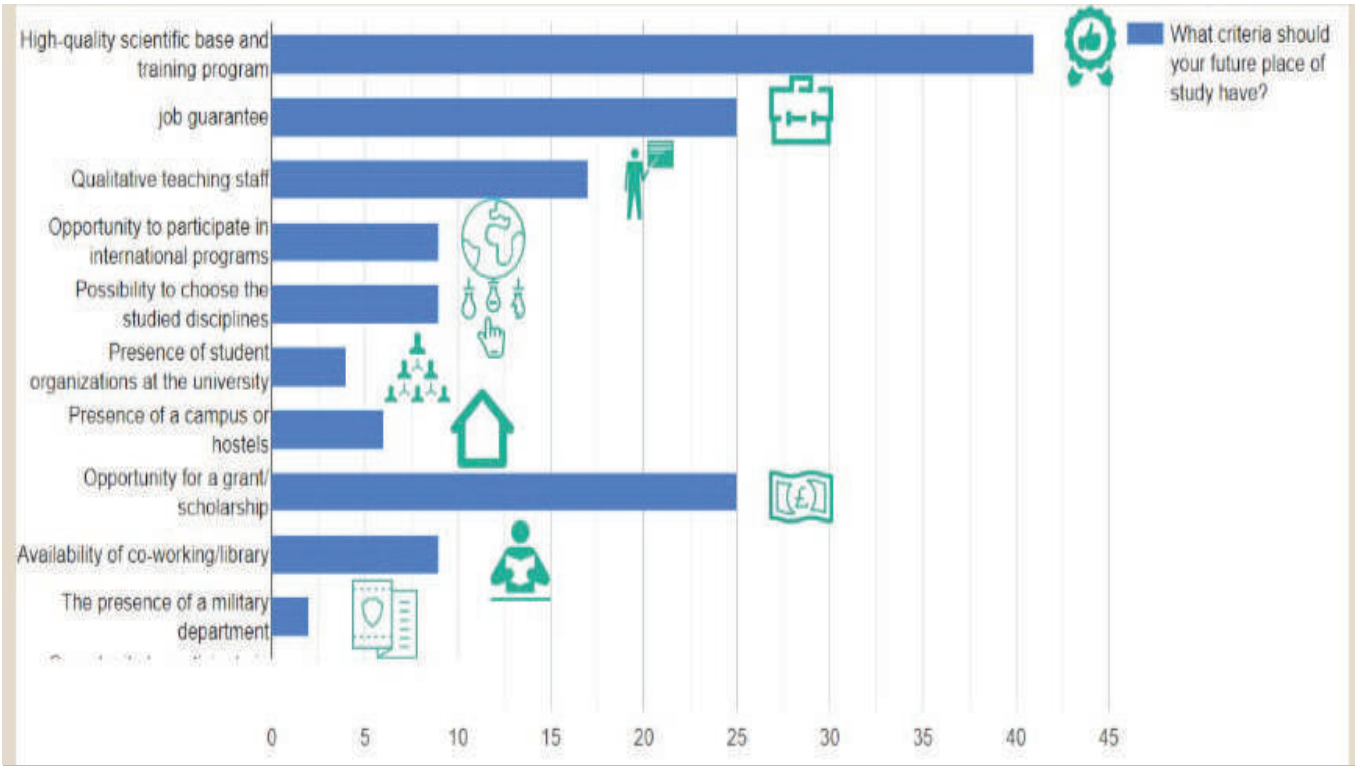








Prezi


What criteria should your future place of study have?
High-quality scientific base and training program
job guarantee
Qualitative teaching staff
Opportunity to participate in international programs
Possibility to choose the studied disciplines
Presence of student organizations at the university
Presence of a campus or hostels
Opportunity for a grant/ scholarship
Availability of co-working/library
The presence of a military department
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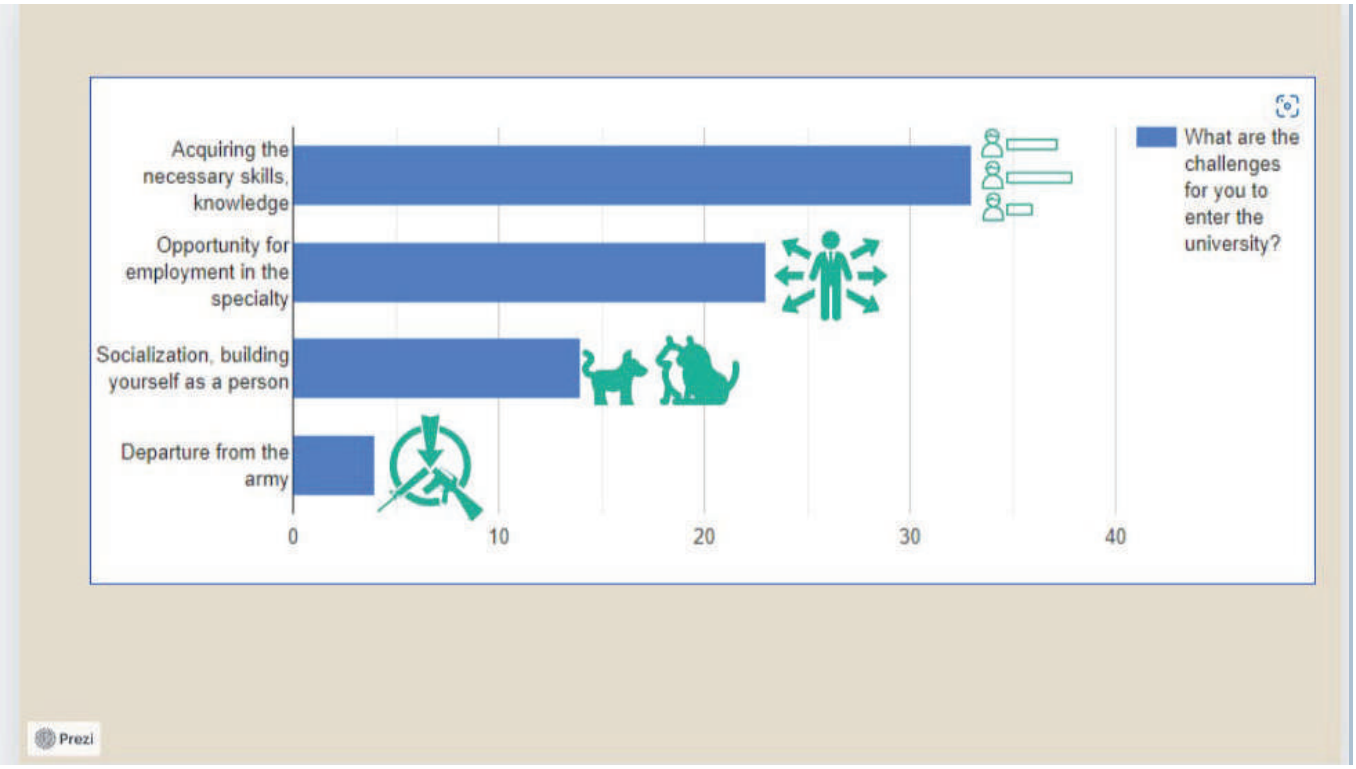
What are the challenges for you to enter the university?
Acquiring the necessary skills, knowledge
Opportunity for employment in the specialty
Socialization, building yourself as a person
Departure from the army
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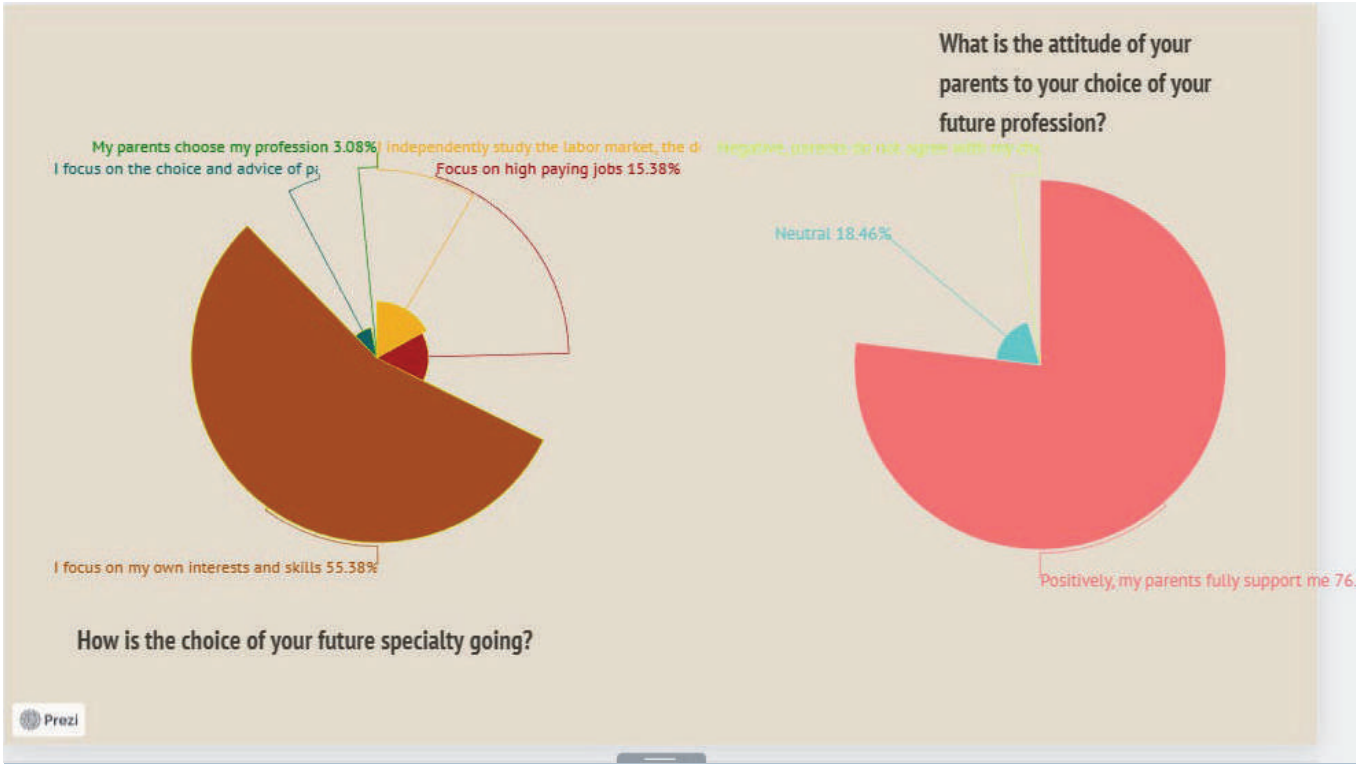
Prezi



Conclusion on the statistics of the survey among schoolchildren

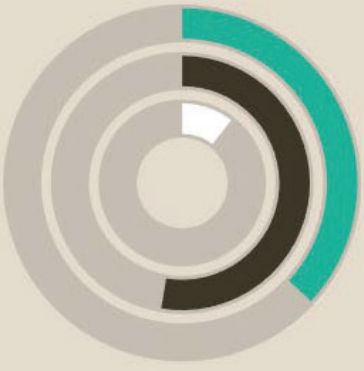
From these surveys, in which 65 school students from various schools in Almaty took part, we drew some conclusions. The picture of choosing a profession has changed since the Soviet period. Modern youth independently chooses professions, the influence of parents fades into the background, teenagers independently study the labor market, focus on their interests, skills, and only consult with the older generation. It is not excluded that the sample is not complete and needs to be supplemented, since studies were conducted in only one region.

BUT...

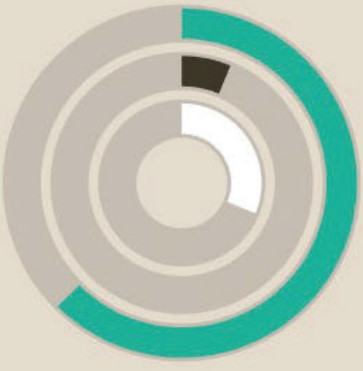
But nevertheless, if these data remain the same across the country, the question remains, if students choose their own profession, then what is such a low rate of work in a specialization? At the beginning of this article, we assumed that other causes of the problem may be employers' expectations or low-order competence among graduates, so we also conducted a survey among bachelor's graduates of some universities and received these data.

Prezi

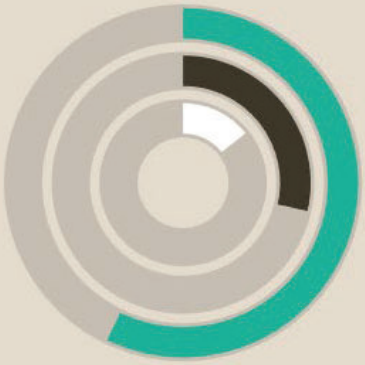
Do the skills and knowledge acquired at the university meet the requirements of the employer?



What methods would be useful to you now if they were in universities?



Are you satisfied with the acquired knowledge, curriculum and teaching system at the university?



Prezi

Eventually ...

on the basis of this sample, we can notice that, in general, graduates are satisfied with both the training system and the acquired knowledge that they already use in the workplace, but at the same time we see their need for practical training. This survey also fails to provide a picture of the state of student learning across the country, as it was conducted at only one university, research in this area is still ongoing.

But if we analyzed the situation with schoolchildren and made sure that they make the choice themselves, and more than half of the graduates are satisfied with the education they received, there is only one link that prevents graduates from working in their specialization, and that is employers. There are too few surveys to build a picture of what criteria and how employers recruit new personnel, work is still underway on this issue. But nevertheless, having found a "damaged wire" in this system, we know where to start and offer such a picture of Higher Education in the future.

Our Solutions

When an applicant enters a university, he passes a mandatory psychological test, which helps him in the final decision whether to study in a particular specialization. And also, on the basis of the test, he is offered variations of specialties that are most suitable for him.

The Ministry of Education, together with the scientific staff of the country, the teaching staff of universities, are developing a training plan. Further refinement and corrections are made by entrepreneurs, school directors and other heads of industries, offering their own criteria for exams, types of practical classes. Those entrepreneurs and heads of industries who actively participate in the development of a training plan and contribute their ideas and proposals receive bonuses from the state as motivation (tax reduction, recruitment of the best graduates who need to work out a state grant, etc.)

Universities on a regular basis after graduation on a mandatory basis (anonymously) are asked about the quality of the acquired knowledge, skills, etc. to identify weaknesses and make decisions about new teaching methods. Once every few years, graduates of previous years are invited to take a survey on how their career progresses, how skills and knowledge help them in the workplace, and what academic hours turned out to be unnecessary and did not affect their lives in any way.

Pedagogical University of Krakow

Pedagogical University of Krakow

The future belongs to us. The competences of the future in relation to future education.

TWARDOSZ, Natalia
OSPANOVA, Milana
FRANELAK, Maria

Future competences are naturally associated with the dynamics of the modern world and the associated socio-cultural, economic or civilisational changes. The contemporary school is characterised by a continuum of change, and therefore reflecting on the competences of the future is increasingly popular in the literature. Among the competences of the future mentioned, in addition to general competences, it is worth distinguishing professional and social competences, which are crucial for effective work in many professions, including education. General competences acquired during formal education form the foundation for professional competences, which in turn comprise the skills, knowledge and personality traits necessary for effective work. Social competences, on the other hand, refer to the ability to function in a social environment. The development of competences for the future, as well as social competences, is essential for teachers to be able to effectively fulfil their role as educators and contribute to the development of students and the school community, which is why various initiatives are undertaken in our academic community as part of the exploration of competences for the future, including - participation in study circles, international exchanges, academic conferences and, above all, planning and conducting interdisciplinary research projects.

The first presented research project "Teacher competences for working with students displaying disruptive behaviour: Cases on Poland and Kazakhstan" is in the process of conceptualising theoretical and methodological assumptions. The subject of the research is teachers' pedagogical competences. The aim of the research is to diagnose teachers' pedagogical competences in working with a student displaying disruptive behaviour, and to develop an educational module for strengthening pedagogical competences in the educational process. The main research problem is based on the following question: what are the competences of teachers from Poland and Kazakhstan to work with a student displaying destructive behaviour? The main method adopted in the research is the survey method (Babbie, 2005), while a test or survey questionnaire was adopted as the framework techniques. The project envisages the development of a training module on working with a student displaying disruptive behaviour and implementing it in the educational process in Poland and Kazakhstan.

Everyday life, whether professional or personal, depends on the influence of individuals and social groups, therefore the second project is devoted to a pilot study relating to the level of social competences during the first years of teachers' socio-professional adaptation. The study formulates the main research problem: What level of social competences do teachers have at the professional start? The study used a survey method with a standardised KKS tool (A. Matczak). The study group amounted to 314 teachers from different types of schools and institutions. The survey yielded a statistically significant result in relation to the variable - place of residence. It is worth emphasising that both social and professional competences
can be a real answer to the challenges of the modern world, and above all, through their improvement, they can represent the future of education.

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17-18 March, Tsukuba

The future belongs to us. The competences of the future in relation to future education.

CO-CREATING THE FUTURE OF EDUCATION:
PERSPECTIVES OF GRADUATE STUDENTS

THE COMPETENCES OF THE FUTURE

''A set of personality characteristics, skills, learning and knowledge that enable people to function effectively in the information society and knowledge economy".

— World Economic Forum in the raport "The Future of Jobs"

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THE COMPETENCES OF THE FUTURE

CHANGING WORKING ENVIRONMENT

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THE COMPETENCES OF THE FUTURE

GENERAL COMPETENCES

PROFESSIONAL COMPETENCES

SOCIAL COMPETENCES

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Professional competences

''the set of knowledge, skills, values and attitudes that enable an individual to perform effectively and achieve specific results in a particular profession or field.''

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Social competences

"the ability to cope with specific social situations, acquired by an individual in the course of social training".

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General competences

''(...) acquired during formal education(the highest possible level of linguistic, mathematical, digital and social and civic competence"

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Methodological assumptions

The subject of research is the pedagogical competence of teachers (including professional competencies)

The purpose of the research is to diagnose the pedagogical competence of teachers in working with a student displaying disruptive behavior, as well as to develop a learning module for strengthening pedagogical competence in the educational process.

The main research problem is based on following question: what are the competencies of teachers from Poland and Kazakhstan to work with a student displaying destructive behavior?

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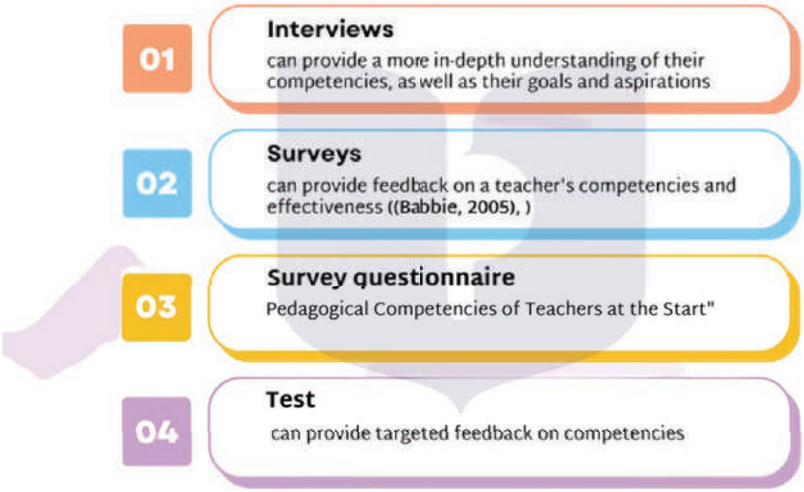
Methods and techniques



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Problems of assessment and identification

1. **Changing professional requirements** – requirements for teachers may change over time, which means that assessing a teacher's professional competencies must take these changes into account.
2. **Lack of unified standards** – different countries and education systems may have different standards for assessing a teacher's professional competencies, making them difficult to compare.
3. **Complexity of competencies** – a teacher's professional competencies are complex and involve many different aspects, such as interpersonal skills, pedagogical and didactic knowledge, technical and IT skills, etc. Diagnosing all these competencies can be difficult.

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Applications for teacher training

- A learning module in preparation for the teaching profession – practical implications
- The proposal will be developed after analysis and interpretation of the research results

After analyzing and interpreting the results of the research **the result of the research work** will be the development of a training module on working with a student displaying destructive behavior and implementation in the educational process in Poland and Kazakhstan.

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Social competences

INTIMATE SITUATIONS (I) - these are close interpersonal contacts,.based on. emotional involvement,.proximity and.also commitment..Interpersonal contacts are based,.among other things,.on.correct interpersonal communication - verbal and.non-verbal,.the.ability to.receive messages as.well as.to.send them.

SOCIAL EXPOSURE (ES) - situations in.which a.person.is the.centre of.attention and.potential attention..These situations can vary from.the.nature of.the. encounter (formal,.informal,.professional).and.can act in.a.stressful and. demanding way towards the.individual.

ASSERTIVE SITUATIONS (A) - understood as.those in.which assertiveness is used for.one's own needs and.goals,.problem.solving,.expressing oneself and. responding appropriately to.demands made by.others..It.allows an individual to.act in.accordance with.their own beliefs,.not.to.be.influenced while responding in.accordance with.accepted social norms..

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WHY AM I DOING THIS?
HOW WILL I EXPLORE THIS?

(METHODS, TECHNIQUES, TOOLS)

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METHODOLOGY
PILOT STUDY

QUANTITATIVE PARADIGM

THE POLLING METHOD

SOCIAL COMPETENCY QUESTIONNAIRE (MATCZAK A.)

CONVENIENT SAMPLING OF THE RESEARCH SAMPLE - 314 RESPONDENTS

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METHODOLOGY
PILOT STUDY

1. What is the level of social competence of teachers at the professional start?

1. Do and which variables influence the level of social competence?

1. What level of social competence do teachers represent on the different scales – intimacy, assertiveness, social exposure?

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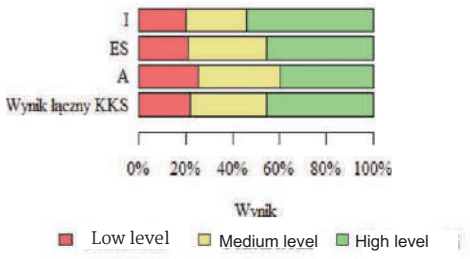
What is the level of social competence of teachers?

KKS	Place of living	N	Mean	SD	Mediana	Min	Max	Q1	Q3	p
I	Village	109	45,90	6,68	45,0	32	60	41,00	51,00	p=0,666
	City up to 20 thousand residents.	55	49,15	7,71	50,0	32	60	44,00	56,50	
	City of 20-50 thousand residents.	44	47,39	7,81	47,5	31	60	41,00	52,25	
	City of 50-100 thousand residents.	39	45,38	7,58	47,0	24	59	40,50	50,00	
	City of more than 100 thousand residents.	67	47,09	7,41	47,0	29	60	43,00	52,00	
ES	Village	109	53,32	9,82	54,0	27	77	46,00	60,00	p=0,079
	City up to 20 thousand residents.	55	56,91	10,63	59,0	28	77	49,50	65,50	
	City of 20-50 thousand residents.	44	57,89	10,35	61,0	35	77	50,75	66,00	
	City of 50-100 thousand residents.	39	54,26	11,34	53,0	30	77	48,50	63,50	
	City of more than 100 thousand residents.	67	55,12	9,26	54,0	37	77	49,50	62,00	
A	Village	109	47,82	9,78	47,0	23	68	41,00	55,00	p=0,017 *
	City up to 20 thousand residents.	55	52,55	10,00	51,0	27	68	46,50	61,50	B>A,D
	City of 20-50 thousand residents.	44	51,18	11,12	51,0	28	68	44,00	60,50	
	City of 50-100 thousand residents.	39	47,05	10,18	45,0	22	68	42,00	52,50	
	City of more than 100 thousand residents.	67	49,99	9,88	49,0	27	68	43,50	58,50	
KKS total score	Village	109	179,12	28,40	177,0	103	241	162,00	201,00	p=0,044 *
	City up to 20 thousand residents.	55	192,22	31,78	191,0	105	241	169,50	218,00	B>A,D
	City of 20-50 thousand residents.	44	190,27	31,72	188,5	120	244	167,50	215,25	C>A
	City of 50-100 thousand residents.	39	178,56	32,41	175,0	93	234	162,00	201,50	
	City of more than 100 thousand residents.	67	184,63	28,36	183,0	124	240	165,50	206,50	



TOTAL	KKS			
	I	ES	A	Total score KKS
LOW LEVEL	63 (20%)	66 (21%)	80 (25%)	68 (22%)
MEDIUM LEVEL	82 (26%)	105 (33%)	109 (35%)	103 (33%)
HIGH LEVEL	169 (53%)	143 (45%)	125 (40%)	143 (46%)

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In turn, the more effective the teacher's action is, the more the teacher himself is subjected to development processes, the more aware he is of himself, and the more aware the school is of his own professional and existential needs.

Henryka Kwiatkowska

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