



Implementing Traditional Mongolian Mind in Combination with Modern Teaching Technologies

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Abstract. A Mongolian proverb says, “Losing livestock is not a big deal, but the loss of the policy is a disaster.” One of the major challenges in the education sector is the implementation of the traditional reform policies. In particular, modern education policy must take into account the specifics of the nomadic culture and Mongolian mentality. The goal of our study was to demonstrate the importance of combining the educational tradition with the concept of policy reform. Our documentary research reflects theories and concepts of a number of foreign and Mongolian scientists. Also the document study identified the ideas of Mongolian researchers, made a comparative analysis of the process of combining theory and practice, and studied the methodology, technology, and policy documents used in the classroom teaching. A total of 120 people from various government and non-government organizations participated in the questionnaire survey. Our research shows that a comprehensive implementation of Mongolia’s traditional education policy along with a modern policy is the best way to improve educational outcomes. Based on our findings, it is considered appropriate to 1) implement an integrated education policy based on the Mongolian mind, and 2) plan a teaching strategy and implement teaching theory and ideas in classroom and e-learning practices. In addition, these factors will increase the average level of students’ learning and meet certain performance criteria. At the crossroads of the past, present, and future, teachers face a legitimate social need to develop Mongolian science, ensure the unity of theory and practice, and strengthen cognition and intelligence.

Keywords: Mongolian mind · quantum teaching · quantum learning · learning strategy and model

1 Introduction

The problem that the Mongolian education system is facing is the loss of traditional Mongolian culture and mind [2]. To fill this gap, we have tried to test the possibility of having a positive impact on the learning outcomes of Mongolian learners by addressing the traditional Mongolian thinking in combination with modern quantum learning strategies [1, 4]. For thousands of years since the foundation of Mongolia, Mongolians have

been acquainted with the great literature of the Enlightenment (Robert A. F. Thurman). “The Great Treatise of The Stages to The Enlightenment”, which has been enriched by various meanings such as roots, causes, and real-life examples, has been analyzed and explained in many ways [13]. We could name the most significant works of the Enlightenment written by Mongolian scientists. This shows that Mongolians have been emphasizing human relations, attitudes, humane morality, human dignity, the meaning of life and enlightenment for centuries. Many factors in social life show that this traditional Mongolian mind is being lost in the course of time. We have seen in many researches and documentary studies that one of the global strategies to compensate this is the principle of quantum teaching and learning. In other words, we have discovered that quite a number of ideas of quantum teaching and learning are reflected in the traditional Mongolian pedagogy and folklore. The value of Mongolians is concentrated in their enlightenment and life skills. Mongolians have a long history of using a combination of skill and wisdom. In this deeper sense, when the method and genius dominate the pedagogical process, method and genius are interrelated and form the basis for a development [3].

1.1 Mongolian Mind

Recent education policy has resulted from the centuries-old knowledge and intellectual traditions of the Mongolians. Since ancient times, Mongolian teachers have studied human cognition and have been communicating with one another taking into account the characteristics of each person based on the old principle of “Not everyone is the same, nor every horse is a trotter”. On the other hand, based on thousands of years’ experience, Mongolians have developed principles of strictly adhering to the mentality of students and created a methodology for a comprehensive development of human knowledge, skills and maturity. The long-standing pedagogical heritage of the Mongolian history (Mongolian mind) has been the main teaching tool and our researchers (D. Dashjamts, J. Luvsandorj, Choi. Luvsanjav, Ts. Khorloo, Kh. Nyambuu, S. Badamkhatan, Sh. Gaadamba, B. Bor, Sh. Sukhee, H. Sampildendev, Ts. Uderpil, J. Darambazar, S. Shagdartovuu, Kh. Khovd-Abai, G. Erdene-Ochir) have contributed many volumes of articles and pamphlets into this heritage.

It is clearly indicated in Fig. 1, that Mongolian mind consists of a system. The author outlined this interconnection of ideas [4] of the Mongolian pedagogical heritage, developed by generations of Mongolian scientists.

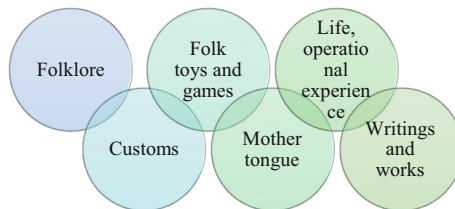


Fig. 1. The Heritage of Mongolian Folk Education

In the Mongolian mind, understanding the nature of things and phenomena is more important for teaching intellectual meditation and abstract thinking than recognizing the reality. It is believed that one can find the truth having focused on the doctrine of emptiness quality. To do this, it is important to learn to doubt about the knowledge. “Doubt” is a person’s desire to learn. It is important for students to learn a culture of teacher worshiping and respect for the book.

1.1.1 Quantum Learning and Teaching

Quantum refers to the interaction that changes energy into light [7]. Quantum Learning/Teaching begins with a strong belief foundation that “all people can learn, people learn differently, and learning is effective when it is joyful, engaging, and challenging” [10]. Similar beliefs were found in theories originally adopted from Lozanov [14] and these were also taken into account in the birth of Quantum Learning and Teaching. The main goal of Quantum Learning is to realize the individual as a whole [16]. When we look at definitions of Quantum Learning, “Quantum Learning is keeping structures all together specially and privately in order to construct meaningful information, using all of the neural networks in brain” [15]. Thus, Quantum Learning can be said to be a learning theory that allows all the neural structures of the brain to be integrated into individual competencies in order to create meaningful information. Academic skills include note-taking, memorizing, writing, and effective reading techniques, lifelong learning skills include problem-while solving techniques and effective communication skills [11]. On the other hand, in the works of recent researchers, it is said that Quantum Learning is a system that artfully orchestrates learning and increases teacher effectiveness while facilitating student mastery of rigorous academic content. In the field of education, the use of the term “Quantum Learning” can be defined as the energy conversion of the spirit, enthusiasm, skills, talents, or potential of students through the interaction with other people and environment.

Quantum Teaching is like conducting a symphony and orchestrating two major elements [9]. The theory of the right and left brain is based on the work of Roger W. Sperry, who won the Nobel Prize in 1981. The Experimental Learning Theory is a learning theory developed by David Kolb. VAK (visual, auditory, kinesthetic) learning style theory takes into account learners’ characteristics, differences, and learning styles. Quantum Teaching model is a design that describes the style of launching the learning activities, through the alignment of art elements and planned achievements, regardless of the content of the lesson and making all the material in learning activities (i.e., every speech, ideas, and joint activities) that can improve the situation, delivery, and learning plan meaningful [8].

Thus, after studying the pluralism of traditional Mongolian science, quantum learning, and quantum teaching, we have compared and summarized the past history of the Mongolian education policy (Table 1).

An overview of Mongolia’s educational policy and concept so far shows that “Mongols have worshiped the rich works of Tsongkhapa Luvsandagva (1357–1419), known as the crown of the sages of the Snow Country, and have applied them in their work and life. Genghis Khan’s invaluable teachings and folklore samples are a great source of inspiration. On the other hand, Mongolia’s education policy continues to adopt and implement international policies in line with social trends.

Table 1. Education Policy and Concepts in Mongolia

Date	Theory (conception)	Basic Principles (Features and Nature) Training Practice	Theoretical Basics
140–1930	The Great Treatise of the Stages to the Enlightenment	The “Traces of Three Beings” (the path to the great enlightenment of the mind through the three great stages of the human mind) or the path to the highest stage of human intellectual development, the philosophy and the charm of the mind. This work has been translated and used by Mongolians in their native language since the 15th and 16th centuries and was distributed to the public by the Ikh Khuree in the form of a manuscript and a wooden bar. It has become a great source of inspiration for the Mongolian people.	Tsongkhapa Luvsandagva (1357–1419), known as the evening ornament of the sages of the snowy land Great Bogd Chinggis Khan The wisdom of Ghinggis Khan Folklore Methods of educating people “Secret Chronicles” “The Key to The Mind”

(continued)

Table 1. *(continued)*

Date	Theory (conception)	Basic Principles (Features and Nature) Training Practice	Theoretical Basics
1931–1970	Cyrillic literacy Life science Traditional behavioral trends Problem-solving training	The purpose of education at this time was to teach to read and write, teach life skills, expand the connection between the school and life, and to improve the material base of the school. In 1942–1943, there was a great campaign to learn the grammar of the Cyrillic alphabet written by Damdinsuren. The theory of teacher-centered learning was predominant, with the dominant, compulsory nature of teacher delivery and information transfer. Since 1964, Ch.Gombojav has played an important role in mastering, empowering, promoting and disseminating problem-solving teaching methods in Mongolian education.	Ts. Damdinsuren Theory of Behaviorism (Pavlov, Thorndike, Skinner) Problem-based Learning Theory. Ch. Gombojav
1971–1985	Training management	In training activities, the management and development of the training was given a wider range of issues, taking into account the cognitive and psychological foundations and the neuro-physiological basis of human activities.	Ch. Gombojav Innovative teachers

(continued)

Table 1. (continued)

Date	Theory (conception)	Basic Principles (Features and Nature) Training Practice	Theoretical Basics
1986–1990	The science of training	The climate of reform in Mongolian education was a time when active learning theories, concepts, new methods and technologies were introduced and implemented focusing on the development of the student’s inner mind and mind (humanism) and learning activities from a scientific point of view (classical theory of management science).	Theory of Active Learning (Rogers Maslo, Frederick Taylor, Henry Mayo) New methodology and technology (Student-centered learning)
1991–2020	The global idea of democratizing the education sector	As a result of the Democratic Revolution of 1990, the global idea of democratizing the education sector has become irreversible.	Organization Management (Ch. Purevdorj) Management of Teaching (Ch. Purevdorj) People-centered society
2021–2022		Between 2021 and 2022, the social structure, and educational attitudes changed dramatically, and new ideas and personal learning activities, management methods and technologies were revived and goals began to be achieved. Many brain-based, educational, cognitive, and pedagogical theories have been developed.	Theory of Learning Style (D. Kolb, Richard Felder, Felder Sielerman) Cognitive Constructivism (Piaget, Vygotsky) Cognitivism (E. Tolman, R.Solo, Neisser Svelker), Neuroscience (RN Kane, G. Kane, E. Jensen, R. Sylvester), Quantum Studies (Georgy Lazanov, Barbara Given, Bobby DePorter) Action Research (B. Jadamba) ¹

2 Method

The introductory part of our research covers the concepts of Mongolian science, traditional thinking, and quantum education. The collection and analysis of numerous sources and documents have revealed the connection between the traditional Mongolian science and the quantum education. There are many sources in these documents such as the teachings of Chinggis Khan, Mongolian folklore, the art of human creation, *Secret Chronicle*, *Key to Wisdom*, *Wisdom of Life*, and traditional behavioral trends.

Of the 120 participants, 35 (29.2%) were male and 85 (70.8%) female. As for the employers, 74 (61.7%) were universities, 5 (4.2%) research institutes, 19 (15.8%) government agencies, 17 (14.2%) non-governmental organizations, and 5 (4.2%) were others. Positions of the survey participants: 16 executives (13.3%), 9 heads of departments (7.5%), 3 consultants (2.5%), 10 senior teachers (8.3%) and 82 teachers (68.3%). In terms of years of employment: 1–5 years- 16 (12.10%), 6–10 years- 15 (12.5%), 11–15 years- 24 (20%), 16–20 years- 14 (11.7%), 21–25 years- 17 (14.2), 13 (10.8%) 26–30 years, 17 (14.2)- 30–35 years, and 8 (6.7%) more than 36 years.

Based on the historical overview of the education policy, a questionnaire was developed to determine the current situation of modern Mongolian teachers. The questionnaire to determine the current situation of modern Mongolian teachers consisted of 6 parts with 25 questions (Table 2). The non-probable sample consisted of 120 participants. We have added representatives of governmental and non-governmental organizations working in the education sector and different age groups to increase the sample variety. We analyzed Mean, St. Dev, and Correlation from the quantitative data collected by the questionnaire and interpreted the results. Finally, as researchers, we tried to develop a version of a quantum-based education methodology based on our data.

Table 2. The Questionnaire Design

Scale	Questions	Factors
Teacher-professional competence	1, 2, 3, 4, 5	General competencies of modern teachers
Teacher's mindset and attitude	6, 7, 8, 9, 10	Mindset and attitudes towards the teaching profession
The value of the teacher	11, 12, 13, 24, 25	Psychological attitudes between teachers and students during the teaching process
National pedagogical methodology	19, 20, 21, 23	Understanding and application of Mongolian traditions and national pedagogical methods
Research-based training and management	16, 17, 18	Management techniques for conducting research-based training
Mongolian mind or didactic principle	14, 15, 22	Didactic use of training in combination with traditional and modern styles

Participants were graded on a scale of 1 to 7 for each question. The closer the score to 1, the more they disagree, and the closer to 7, the more they agree (Table 4).

“Teacher-professional competencies”, “Modern teacher thinking and attitudes”, “Teacher excellence”, “National pedagogical methodology”, “Research-based training and management”, “Mongolian science or didactic principles” are strongly correlated (Table 4).

Table 3. Mean, St. Dev For Each Scale

		Average	Standard deviation
Teacher-professional competence	1. As a teacher, I try to develop my professional knowledge and skills at the intersection of many sciences (psychology, education, management, etc.).	5.23	1.527
	2. I am sure that I have enough knowledge and skills in teaching methods and technology.	5.38	1.450
	9. Teachers who do not have self-study skills are not able to give effective advice to students.	5.07	1.859
	3. Teachers have goals and plans to constantly develop their professional knowledge and skills.	5.60	1.428
	4. Knowledge and skills of using ICT are essential for teachers and professionals.	6.08	1.178
	5. I think every teacher needs to be able to read, speak and write in a foreign language.	5.79	1.449
Teacher’s mindset and attitude	6. Today, we do not see any mistakes or points in any level of training due to lack of scientific approach.	5.14	1.434
	7. The level of educational theory, methodological knowledge and thinking of teachers at all levels of our schools lags far behind modern scientific approaches.	4.82	1.438

(continued)

Table 3. (continued)

		Average	Standard deviation
	8. People who think that my work is going well have almost no need or motivation to learn new information and develop themselves.	4.63	1.676
	10. Today, our teachers do not see their mistakes due to the fact that educators pay too much attention to the content and little attention to technology.	5.00	1.604
The value of the teacher	11. Teacher behavior has a profound effect on students' beliefs and convictions.	5.69	1.389
	12. Teacher coercion never leads to good results.	4.99	1.642
	13. Ignoring a student is like denying yourself.	5.69	1.437
	24. An empathic teachers who put himself in someone else's shoes and understand others are rare.	5.09	1.472
	25. Teachers lack methods of positively influencing the psychology of their students	5.38	1.438
National humanization methodology	19. The Mongolian tradition of imparting knowledge through methods and wisdom has been lost.	5.27	1.424
	23. 23. At any stage of training, little attention is paid to upbringing and development in order to develop students' knowledge and skills.	5.62	1.367
	20. The golden teachings of our ancestors, folklore and philosophy, which form the body, mind and spirit, are not applied to life.	5.28	1.449

(continued)

Table 3. (continued)

		Average	Standard deviation
	21. It is very important to have a national humanization methodology that suits the uniqueness, features, needs, interests and abilities of the Mongolian people.	5.83	1.305
Research-based training and management	16. The main purpose of training is not to impart knowledge to students, but to guide them from learning to knowledge-building techniques.	5.68	1.490
	17. Trainings and activities are not organized according to the characteristics and learning methods of each student.	5.42	1.441
	18. Research-based training management techniques are essential in the modern world.	5.99	1.254
Mongolian mind or didactic principle	14. As a teacher, I always try to keep my body, speech and mind pure.	5.83	1.527
	15. If you know yourself well, you are becoming a human being.	5.58	1.559
	22. It is appropriate to abandon only one general method of teaching and to change the didactic principles of teaching in combination with traditional and modern styles.	5.83	1.248

3 Results and Discussions

The results of this study have revealed that recent teachers are missing the traditional Mongolian mind and communication values of Mongolians. Many researchers and historians have written about Mongolian mind, emphasizing the uniqueness, character, individual differences, and personal factors of Mongolians. The main result of our documentary research is that it is important to conduct a broader research study on the Mongolian mind and quantum teaching as they may be relevant in many ways. As such, we will continue our study.

Table 4. Correlation

		[1]	[2]	[3]	[4]	[5]	[6]
Teacher-professional competence [1]	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	120					
The mindset and attitude of the modern teacher [2]	Pearson Correlation	.616**	1				
	Sig. (2-tailed)	.000					
	N	120	120				
The value of the teacher [3]	Pearson Correlation	.600**	.759**	1			
	Sig. (2-tailed)	.000	.000				
	N	120	120	120			
National humanization methodology [4]	Pearson Correlation	.564**	.687**	.839**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	120	120	120	120		
Research-based training and management [5]	Pearson Correlation	.711**	.701**	.825**	.837**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	120	120	120	120	120	
Mongolian mind or didactic principle [6]	Pearson Correlation	.693**	.639**	.801**	.800**	.871**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	120	120	120	120	120	120

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

The reliability of the questionnaires can be considered to be ensured since all of the cronbach alphas in our survey were above 0.8., the average score of “Teacher-professional competence” scale- 5.6167, the standard deviation- 1.12976, the average of “Modern teacher thinking and attitude”- 4.8958, the standard deviation- 1.24414, the average of “Teacher excellence”- 5.3683, the standard deviation- 1.13582, the average of “national humanization methodology”- 5.4979, the standard deviation- 1.18486, the mean of “research-based training and management”- 5.6944), the standard deviation- 1.19490, the “Mongolian Science or Didactic Principles” has the average of 5.7417 and the standard deviation of 1.26540. Based on this result, the mean score of “Teacher Thinking and Attitude” is average, while other indicators are more strongly expressed.

A closer look at each of the factors reveals that the participants responded to the questions from many angles. A heterogeneous response was obtained with the mean standard deviation ratio. There are 5 sub-items in the “Teacher-Professional Competence” scale. The “modern teacher’s mindset” scale is divided into four sub-items. The “teacher excellence” scale includes 4 sub-items. The “National Humanization Methodology” scale includes four sub-items. “Research-based training and management” scale

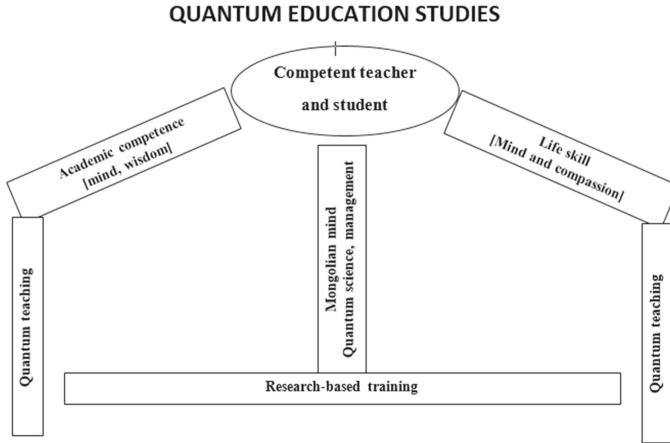


Fig. 2. The Model of Quantum Science-Based Education Methodology

has three dimensional sub-ideas. “Mongolian science or didactic principles” scale has three sub-concepts (Table 3).

“Teacher-professional competencies”, “Modern teacher thinking and attitudes”, “Teacher excellence”, “National pedagogical methodology”, “Research-based training and management”, “Mongolian science or didactic principles” are strongly correlated (Table 4).

As a result of the questionnaire, the following important areas for improving modern teaching activities and teacher competencies were identified: teacher-professional competence, modern teacher mentality, teacher emergency, national humanization methodology, research based training and management, Mongolian science and didactic principles. Based on these results, the next model has been developed for use in training and activities, and for testing and determining results (Fig. 2).

We are currently trying to test this model of quantum education in our teaching and learning activities. The questionnaire found that Mongolian teachers are aware of the value of traditional Mongolian mind but lack the ability to pass it on to their children, students, and role models. It has also been observed that in traditional Mongolian mind, the principles of mutual respect for teachers and students, respect for science, and purity of body, language, and mind are less used in classroom teaching. For example, teachings of Mongolian men, who have taught their children and students the wisdom of life, and the methods of leading by word and deed and following others, are not visible.

The results of the survey also show that many teachers are aware of the negative consequences of losing their traditional Mongolian mind. Another key outcome was the development of a training model for future training and activities based on the results of the study.

The results of the study, based on traditional Mongolian thinking and modern teaching policies, are important for modern teachers to study traditional culture and education (Jadamba, 2018) and pass it on to the future generations.

Furthermore, based on the results, the initial hypothesis was confirmed. The study made a significant contribution to the development of further training strategies. We

also believe that our research has identified ways to combine the values of traditional Mongolian mind with new approaches to modern teaching.

4 Conclusion

In conclusion, low-energy learning technologies for human development do not meet the social needs of education for all, individuality, and individual origins. Therefore, we believe that it is time to change educational technology and teaching principles. On the other hand, there is a lack of education policies accorded to the specifics of the country. Our research seeks to identify the causes of many of the complexities and behaviors existing in the Mongolian education system. We will continue our research on Mongolian traditional mind and quantum learning and teaching education.

5 Limitations of the Study

The relationship between the traditional Mongolian mind and quantum education leads to three limitations. First, Mongolians have had a long history of culture, knowledge, mindset, and Buddhist ideology to keep their bodies, speech, and minds pure. Second, the basic idea of quantum education is reflected in traditional Mongolian culture. Third, only documentary evidence can show that Mongolian traditional science and quantum education are interrelated in many ways. Therefore, our study does not fully confirm the relationship between these two factors.

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Authors' Contribution. I have contributed to research concepts, design, data analysis, interpretation of results, preparation of manuscripts, review of results, and development of final manuscripts.

Ethical Approval. The author declares that he has no conflicts of interest.

Appendix

Questionnaire design		Disagree Agree						
No	Questions	1	2	3	4	5	6	7
1	As a teacher, I try to develop my professional knowledge and skills at the intersection of many sciences (psychology, education, management, etc.).	1	2	3	4	5	6	7
2	I am confident that I have sufficient knowledge and skills in teaching techniques.	1	2	3	4	5	6	7
3	Teachers have goals and plans to constantly develop their professional knowledge and skills.	1	2	3	4	5	6	7
4	Knowledge and skills to use ICT are essential for teachers and professionals.	1	2	3	4	5	6	7
5	I think every teacher needs to be able to read, speak and write in a foreign language.	1	2	3	4	5	6	7
6	Today, we do not see any mistakes or scores due to the lack of scientific approach to any level of training.	1	2	3	4	5	6	7
7	The level of educational theory, methodological knowledge and thinking of teachers at all levels of our schools lags far behind modern scientific approaches.	1	2	3	4	5	6	7
8	People who think my work is going well have little need for new information or self-improvement.	1	2	3	4	5	6	7
9	Teachers who do not have self-study skills are not able to give effective advice to students.	1	2	3	4	5	6	7
10	Today, our teachers do not see their mistakes because the educators pay too much attention to the content and little attention to the technology.	1	2	3	4	5	6	7

(continued)

(continued)

Questionnaire design		Disagree Agree						
No	Questions	1	2	3	4	5	6	7
11	Teacher behavior has a profound effect on students' beliefs and convictions.	1	2	3	4	5	6	7
12	Teacher coercion never works.	1	2	3	4	5	6	7
13	Ignoring a student is like denying yourself.	1	2	3	4	5	6	7
14	As a Mongolian teacher, I always try to keep my body, tongue and mind pure.	1	2	3	4	5	6	7
15	If you know your body, you know the others.	1	2	3	4	5	6	7
16	The main purpose of the training is not to impart knowledge to students, but to guide them from learning to knowledge-building techniques.	1	2	3	4	5	6	7
17	There are no trainings or activities that are tailored to the characteristics and learning style of each student.	1	2	3	4	5	6	7
18	Research-based training management techniques are essential in the modern world.	1	2	3	4	5	6	7
19	The Mongolian tradition of imparting wisdom through skill and wisdom has been lost.	1	2	3	4	5	6	7
20	The genetic scope that has developed in the body, mind, and spirit of the golden teachings of the ancestors and the philosophy of folklore has been forgotten.	1	2	3	4	5	6	7
21	It is very important to have a national upbringing methodology that suits the uniqueness, features, needs, interests and abilities of Mongolians.	1	2	3	4	5	6	7

(continued)

(continued)

Questionnaire design		Disagree Agree						
No	Questions	1	2	3	4	5	6	7
22	It is appropriate to abandon one general method of teaching and change the didactic principles of teaching in combination with traditional and modern styles.							7
23	At all levels of training, little attention is paid to their upbringing and development in order to build their knowledge and skills.	1	2	3	4	5	6	7
24	An empathic teacher who puts himself in someone else's shoes and understands others is rare.	1	2	3	4	5	6	7
25	There is a lack of methods for teachers to positively influence the psychology of their students	1	2	3	4	5	6	7

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