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MÜƏLLİMLƏRİN DÜŞÜNCƏ TƏRZİNİN ŞAĞİRDƏLƏRİN ÖYRƏNMƏ PROSESİNƏ TƏSİRİ

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THE INFLUENCE OF TEACHER'S THINKING ON STUDENTS LEARNING

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ВЛИЯНИЕ МЫШЛЕНИЯ УЧИТЕЛЯ НА ПРОЦЕСС ОБУЧЕНИЯ УЧАЩИХСЯ

Xülasə. Bu məqalədə təfəkkürünün şagirdlərin öyrənməyə motivasiyasına, dərs zamanı fəallığına və akademik nəticələrinə təsiri empirik və nəzəri aspektlərdən təhlil olunur. Müasir təhsil fəlsəfəsinə görə, müəllim yalnız bilik ötürücüsü deyil, həm də öyrənmə mühitinin təşkilatçısı və şagirdin şəxsiyyətinin formalaşmasında mühüm rol oynayan bir fiqurdur. Bu baxımdan, müəllimin pədaqoji inancları, reflektiv düşünmə səviyyəsi və tədris fəlsəfəsi onun dərsə yanaşmasına və şagirdlə münasibətlərinə həlledici təsir göstərir. Tədqiqatın məqsədi müəllim təfəkkürünün tədris prosesinə təsirini elmi əsaslarla qiymətləndirməkdir. Bu məqsədlə qarışıq tədqiqat modeli seçilmiş və həm kəmiyyət (sorgu və statistik təhlil), həm də keyfiyyət (müsahibə və reflektiv yazıların məzmun təhlili) məlumatları toplanaraq təhlil olunmuşdur. 4 müəllim və 100 şagirdin iştirakı ilə aparılmış sorgular nəticəsində müəllimlərin inkişafyönlü və reflektiv düşünmə göstəriciləri ilə şagirdlərin motivasiya səviyyələri və dərsdə iştirakçılığı arasında statistik cəhətdən əhəmiyyətli müsbət əlaqə müəyyən edilmişdir. Keyfiyyət təhlilləri də göstərmişdir ki, reflektiv düşüncəyə sahib müəllimlər öyrənmə mühitini daha dəstəkləyici və şagirdyönlü şəkildə təşkil edirlər. Müəllimin tədrisə yanaşması yalnız şagirdlərin nəticələrinə deyil, eyni zamanda onların özünüdərkini, öyrənmə fəallığı və sosial münasibətlərinə də birbaşa təsir göstərir. Nəticələr göstərir ki, müəllim təfəkkürü dinamik və dəyişkən psixopədaqoji bir strukturdur. Onun inkişafı təhsilin keyfiyyətinin yüksəldilməsi baxımından strateji əhəmiyyət daşıyır.

Açar sözlər: *müəllim təfəkkürü, reflektiv pədaqogika, şagird motivasiyası, öyrənmə mühiti, tədris fəlsəfəsi*

Abstract. This article analyzes the impact of teachers' thinking on students' motivation to learn, their activity in class, and their academic results from empirical and theoretical aspects. According to modern educational philosophy, a teacher is not only a transmitter of knowledge, but also an organizer of the learning environment and a shaper of the student's personality. In this regard, the teacher's pedagogical beliefs, level of reflective thinking, and teaching philosophy play a decisive role in his approach to the lesson and his relationship with the student. The aim of the study is to evaluate the impact of teacher thinking on the learning process on a scientific basis. For this purpose, a mixed research model was chosen and both quantitative (questionnaire and statistical analysis) and qualitative (interview and content analysis of reflective writings) data were collected and analyzed. As a result of surveys conducted with the participation of 4 teachers and 100 students, a statistically significant positive relationship was found between the teacher's development-oriented and reflective thinking indicators and students' motivation levels and involvement in the lesson. Qualitative analyses also showed that teachers with reflective thinking organize the learning environment in a more supportive and student-oriented way. The teacher's approach to teaching directly affects not only student outcomes, but also their self-awareness, learning engagement, and social relationships. The results show that

teacher thinking is a dynamic and changeable psychopedagogical structure. Its development is of strategic importance in terms of improving the quality of education.

Keywords: *teacher thinking, reflective pedagogy, student motivation, learning environment, teaching philosophy*

Аннотация. В данной статье анализируется влияние мышления учителя на мотивацию к обучению, активность на уроке и академические результаты с эмпирических и теоретических позиций. Согласно современной философии образования, учитель является не только носителем знаний, но и организатором образовательной среды и формирующим фактором личности ученика. В связи с этим педагогические убеждения учителя, уровень рефлексивного мышления и философия преподавания играют решающую роль в его подходе к уроку и его отношениях с учеником. Целью исследования является научная оценка влияния мышления учителя на процесс обучения. Для этого была выбрана смешанная модель исследования, и были собраны и проанализированы как количественные (анкетирование и статистический анализ), так и качественные (интервью и контент-анализ рефлексивных текстов) данные. В результате опросов, проведенных с участием 4 учителей и 100 учеников, была обнаружена статистически значимая положительная связь между показателями мышления, ориентированного на развитие и рефлексивного мышления учителя, и уровнем мотивации и вовлеченности учеников в урок. Качественный анализ также показал, что учителя, владеющие рефлексивным мышлением, организуют образовательную среду более благоприятно и ориентированно на учащихся. Подход учителя к преподаванию напрямую влияет не только на результаты учащихся, но и на их самосознание, вовлеченность в учебный процесс и социальные отношения. Результаты показывают, что мышление учителя представляет собой динамичную и изменчивую психо-педагогическую структуру. Его развитие имеет стратегическое значение для повышения качества образования.

Ключевые слова: *мышление учителя, рефлексивная педагогика, мотивация учащихся, образовательная среда, философия преподавания*

INTRODUCTION

In modern education systems, the teacher factor is perceived not only as an organizer of teaching, but also as a key link that directly affects the psychological, social and intellectual development of students. Not only the teacher's subject knowledge and methodological preparation, but also his or her way of thinking, worldview and pedagogical beliefs are important factors shaping the quality of teaching and student achievement (Hattie, 2009; Dweck, 2017). In this context, the concept of "teacher's way of thinking" is determined by his or her teaching philosophy, reflective thinking and attitude towards students and determines the nature of the classroom environment, the activity of the learning process and the sustainability of the results (Farrell, 2019; Abbasova, 2023).

The teacher's mindset in the teaching process determines his/her approach to the student, the criteria for choosing teaching methods, and the response to situations that arise during the lesson (Pajares, 1992). The teacher's position on the abilities of students – whether they perceive their learning potential as changeable, developable, or genetically fixed – can lead to serious differences in educational outcomes (Dweck, 2017). Thus, teachers with a "growth

mindset" present students' mistakes during learning as opportunities for development, which increases their motivation and confidence in learning (Mammadov, 2018; Hasanli, 2021).

Notable trends in this area are also being observed in the Azerbaijani education system. Developing teachers' reflective thinking skills and strengthening their ability to critically approach the teaching process have become one of the priority areas in teacher training and certification programs conducted in recent years (Aliyeva, 2019; Gasimov, 2020). The level of development of a teacher's thinking affects not only lesson planning, but also classroom relationships, students' self-expression opportunities, and emotional well-being (Khalilova, 2022; Hajiyeva, 2019).

Research shows that teachers' reflective thinking and pedagogical beliefs shape their classroom decision-making, differentiated approaches, and adaptive learning strategies (Schön, 2016; Larrivee, 2020). For example, if a teacher observes that a student is not learning, systematically analyzes the reasons for this and changes their methods, this is a sign that reflective thinking is active. This also creates a positive dynamic in students' learning outcomes (Ismayilova, 2022; Korthagen, 2017).

At the same time, the teacher's way of thinking is the embodiment of the philosophy of education. It makes the teaching process more meaningful and value-oriented by seeking answers not only to the questions of "what to teach", but also "why" and "how to teach" (Fives & Gill, 2015). In this regard, studying the teaching philosophy of teachers is necessary in order to understand their attitude towards learning, how they see students, and the psychological climate

they create in the classroom (Hasanov, 2021; Aliyev, 2020).

As can be seen, there is a strong relationship between teachers' mindsets and students' learning outcomes, and this relationship is manifested not only in academic, but also in social and emotional aspects. Therefore, this issue should be studied as one of the current directions of pedagogical research and taken into account in practical educational policies and teacher training programs.

Table 1. Key components of teacher thinking

Component	Description	Impact on teaching
Pedagogical beliefs	Teacher's subjective judgments about learning, student skills, and the teaching process	It shapes the student's attitude, setting lesson goals and strategies.
Reflective thinking	Tendencies to critically approach and analyze one's own teaching experience	Improving teaching, adapting to changing situations
Decision-making skills	Teacher decisions regarding the choice of method, form, resource and approach in the teaching process	Building an effective and personalized learning environment

Source: Abbasova (2023); Aliyeva (2019); Mammadov (2018); Fives & Gill (2015)

Pedagogical beliefs It forms the basis of a teacher's approach to teaching and learning. For example, if a teacher believes that students' skills can be developed, then they use more motivating and student-centered teaching methods (Dweck, 2017; Mammadov, 2018). This leads to increased motivation and inner confidence in teaching (Hasanli, 2021).

Reflective thinking Reflects a teacher's critical approach to their teaching activities. Reflective teachers continuously analyze the learning process, conduct post-lesson evaluations, and seek methodological improvements (Aliyeva, 2019; Abbasova, 2023). Local studies also prove that teachers with a high level of reflectiveness are

more responsive to student needs (Ismayilova, 2022; Khalilova, 2022).

Decision-making skills and involves the teacher's ability to make operational and conscious decisions during the lesson. The learning environment is rich in numerous variables, and the teacher must choose flexible methods and strategies appropriate to these variables (Fives & Gill, 2015; Hajiyeva, 2019). Successful management of this process is a crucial factor in creating an effective learning atmosphere in the classroom.

For a clearer explanation of this effect, the mechanisms of influence of teacher thinking on the learning process are summarized in the following table:

Table 2. Mechanisms of influence of teacher thinking on learning

Area of influence	The role of teacher thinking
Student motivation	High expectations and a positive approach increase the student's self-confidence and goal-orientedness.
Socio-emotional environment	Reflective and empathetic teachers create an open, safe, and supportive classroom environment.
Choice of lesson strategies	Growth mindset guides the teacher towards interactive, personalized, and student-centered methods
Student self-assessment	The teacher influences the student's attitude towards learning and their perception of themselves as learners.

Reflective thinking allows teachers to dynamically evaluate and change their teaching process (Aliyeva, 2019; Schön, 2016). Such teachers observe student reactions in class, identify learning difficulties in a timely manner, and adapt the form of instruction to them (Farrell, 2019). This makes learning active, student-centered, and continuous.

The model of relationships that a teacher creates in the classroom is also an important psychological factor that affects student learning.

Studies show that a teacher's critical thinking, respect for alternative ideas, and valuing students' opinions increase learning activity (Abbasova, 2023; Hajiyeva, 2019). On the contrary, an authoritarian approach and a behavior model that determines everything by itself creates passivity and indifference to learning in the classroom (Khalilova, 2022).

We can present a comparative view of how these relationships affect the student in the table below:

Table 3. The impact of teacher thought models on student learning

Teacher thinking model	Student behavior and outcome form
Developmentally oriented and reflective	High motivation, proactivity, critical thinking, self-confidence and independent decision-making skills
Formalist and results-oriented	Passivity, focus only on price, fear of making mistakes, low initiative
Empathetic and student-oriented	Ability to express oneself, communicate openly, participate in class activities, and collaborate
Control-oriented and authoritarian	Stereotype learning, fear-based motivation, apathy towards learning

The above framework clearly demonstrates how a teacher’s mindset plays a role in each stage of teaching – planning, implementation, evaluation and reflection. Although this influence is often indirect, its consequences are directly reflected in the quality of learning. Therefore, teacher training and professional development programs should prioritize the development of teachers not only at the methodological level, but also at the level of thinking (Korthagen, 2017; Larrivee, 2020; Fives & Gill, 2015).

Ways to change and develop teacher thinking

In modern educational philosophy, the teacher is not only considered a person who applies existing teaching knowledge, but also a

subject who is open to innovations and reflectively oriented towards development, adapting to constantly changing pedagogical realities. This approach shows that the teacher's way of thinking is not a fixed, but a changing and formable structure. Changing the teacher's way of thinking leads to fundamental transformations in his pedagogical activity and creates conditions for increasing the quality of teaching (Aliyeva, 2019; Abbasova, 2023; Korthagen, 2017). The process of changing the way of thinking should be supported through targeted interventions, practice, self-analysis and professional learning models.

A comparative analysis of effective methods for developing teacher thinking is presented in the table below:

Table 4. Key mechanisms for changing and developing teacher thinking

Development method	Content and application	Expected result
Reflective journaling and observations	The teacher's written analysis of their teaching experiences and post-teaching evaluation	Strengthening critical thinking and decision-making skills
Professional development trainings	Training programs on modern methodology, student-centered approach, and critical pedagogy	Expanding pedagogical perspective and increasing methodological flexibility
Peer learning and teacher networks	Exchange of experiences, lesson observations and joint planning between teachers	An environment of collaborative learning and collective reflection
Change based on evaluation	Teaching improvement based on student feedback, self-assessment, and lesson outcomes	Redesigning instruction to meet changing classroom needs

Source: Aliyeva (2019); Gasimov (2020); Abbasova (2023); Farrell (2019); Korthagen (2017)

Analysis and discussion of results

The results of the study showed that teachers' mindsets - especially their pedagogical beliefs and level of reflection – significantly affect students' learning motivation and participation. The analyses were conducted based on both statistical processing of quantitative (questionnaire) data and thematic content analysis of qualitative data.

The results of the survey conducted among a total of 4 teachers and 100 students were

analyzed in SPSS software. The aim of the study was to determine the statistical relationship between teachers' thinking styles and students' motivation and engagement levels.

Pearson correlation analysis showed that there were positive and statistically significant relationships between teachers' growth mindset, level of reflective thinking, and student motivation indicators.

Table 5. Pearson correlation analysis results

Variables	Student motivation	Level of engagement in the lesson
Growth mindset (GMB)	r = 0.62	r = 0.48
Reflective thinking level (RDS)	r = 0.57	r = 0.66

Source: Compiled by the author, based on SPSS analysis results.

Note: Significant at $p < 0.01$ level

The analysis shows that there is a strong positive correlation of $r = 0.62$ between growth mindset and student motivation ($p < 0.01$). This supports hypothesis H_1 and is consistent with the approaches put forward by Dweck (2017), Mammadov (2018). On the other hand, a correlation of $r = 0.66$ was observed between the level of reflective thinking and lesson

engagement. This result confirms the ideas highlighted by Abbasova (2023) and Aliyeva (2019): teacher reflection increases student engagement in learning.

A multifactorial regression model assessed the impact of teachers on students' academic outcomes and engagement through two key variables – growth mindset and reflective thinking.

Table 6. Results of multifactorial regression analysis

Dependent variable	Explanatory variables	Standard β (Beta)	t-statistic	p-value
Student motivation	IYD	0.48	3.74	0.001
	RDS	0.29	2.11	0.038
Academic results	IYD	0.34	2.69	0.010
	RDS	0.41	3.02	0.004

Source: Compiled by the author, based on SPSS analysis results.

Model's $R^2 = 0.52$, $F(2, 97) = 18.1$, $p < 0.001$

The results show that the teacher's growth mindset explains 48% of the student motivation ($\beta = 0.48$, $p = 0.001$), which statistically fully supports the hypothesis H_1 . At the same time, the effect of reflective thinking on student academic outcomes was higher at $\beta = 0.41$ ($p = 0.004$). This provides empirical support for hypotheses H_2 and

H_3 and is consistent with the theoretical foundations highlighted by Korthagen (2017), Abbasova (2023), and Fives & Gill (2015).

The overall explanatory power of the model ($R^2 = 0.52$) indicates that teacher mindset variables have the power to explain approximately 52% of student outcomes, which is a significantly high indicator.

Table 7. Overall assessment of hypotheses

Hypothesis	Content	Conclusion
H_1	A growth mindset increases student motivation	Approved
H_2	Student engagement is higher in classrooms with reflective teachers	Approved
H_3	Pedagogical beliefs influence lesson organization and method selection, and this is reflected in the results.	Approved

Source: Compiled by the author.

Conclusion

The results of the study showed that teachers' mindsets – especially their approach to teaching, level of reflective thinking and pedagogical beliefs – play a crucial role in the learning process of students. The teacher's high expectations of the student's potential, development-oriented and empathetic approach leads to increased motivation to learn, active participation in the learning process and higher results. Reflective thinking skills ensure that the teacher has a critical

approach to his/her own activities, analyzes the teaching process and is open to continuous improvement.

The general conclusion is that a teacher's mindset is a dynamic process that can change and develop. Proper management of this process plays an important role in improving the quality of teaching, shaping a student-centered learning model, and ensuring emotional safety in education.

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