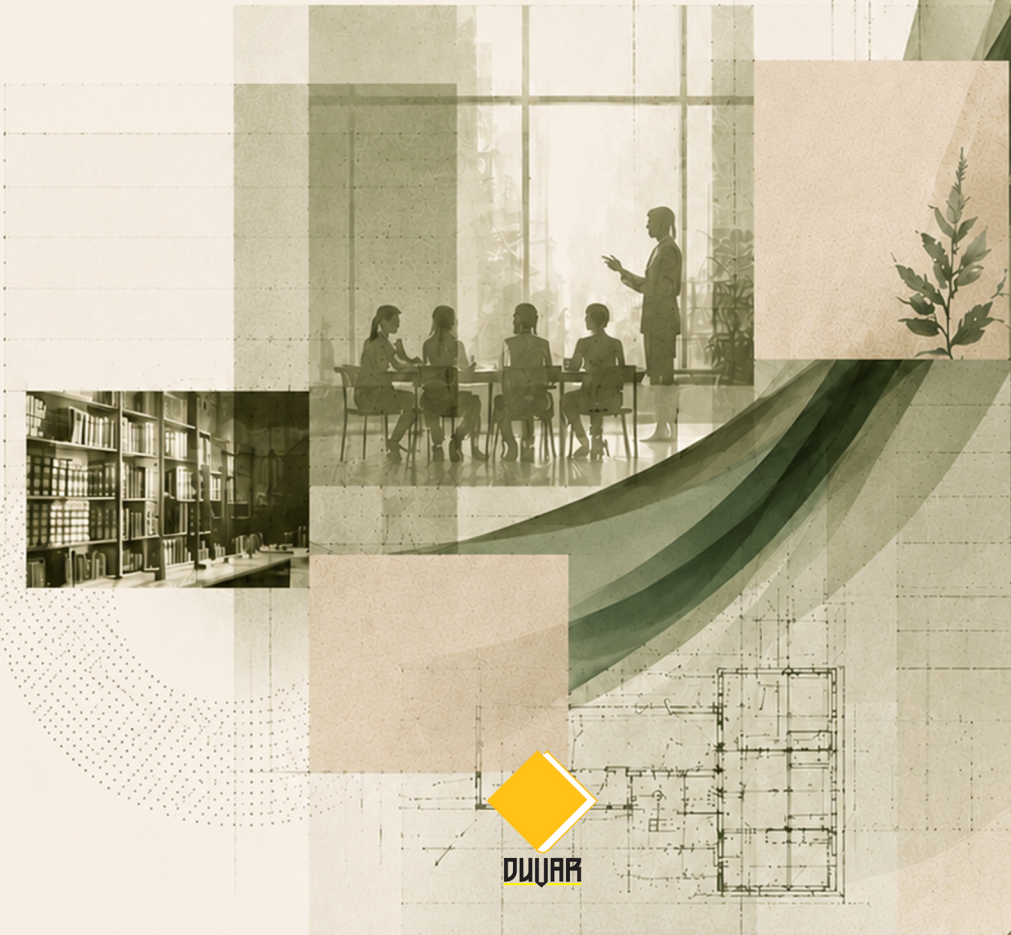


# Contemporary Debates And Interdisciplinary Approaches In Educational Sciences

---

Editor: Assist. Prof. Dr. Mine BAYAR



**CONTEMPORARY DEBATES AND  
INTERDISCIPLINARY APPROACHES IN  
EDUCATIONAL SCIENCES**

**Editor**

**Assist. Prof. Dr. Mine BAYAR**



***Contemporary Debates And Interdisciplinary Approaches In Educational Sciences***

***Editor: Assist. Prof. Dr. Mine BAYAR***

**Editor in chief:** Berkan Balpetek

**Cover and Page Design:** Duvar Design

**Printing :** May-2026

**Publisher Certificate No:** 49837

**E-ISBN:** 978-625-8756-72-2

**© Duvar Yayınları**

853 Sokak No:13 P.10 Kemeraltı-Konak/İzmir

Tel: 0 232 484 88 68

[www.duvar yayinlari.com](http://www.duvar yayinlari.com)

[duvarkitavevi@gmail.com](mailto:duvarkitavevi@gmail.com)

The authors bear full responsibility for the sources, opinions, findings, results, tables, figures, images, and all other content presented in the chapters of this book. They are solely accountable for any financial or legal obligations that may arise in connection with national or international copyright regulations. The publisher and editors shall not be held liable under any circumstances

## TABLE OF CONTENTS

<b>Chapter 1</b> .....	<b>1</b>
Preservice Turkish Language Teachers' Views on Artificial Intelligence: A SWOT Analysis Based on Teacher and Student Roles Göksu ÇİÇEKLİ KOÇ, Gizem ENGİN, Beril CEYLAN NEBİOĞLU	
<b>Chapter 2</b> .....	<b>22</b>
Principles of Explanatory Learning Strategies in Learning Process Fethi KAYALAR	
<b>Chapter 3</b> .....	<b>34</b>
Autism Spectrum Disorder and Teachers Sevinç ÇIRAK KARADAĞ	

# Chapter 1

---

## Preservice Turkish Language Teachers' Views on Artificial Intelligence: A SWOT Analysis Based on Teacher and Student Roles

Göksu ÇİÇEKLI KOÇ<sup>1</sup>, Gizem ENGİN<sup>2</sup>, Beril CEYLAN NEBİOĞLU<sup>3</sup>

### Introduction

In contemporary educational systems, artificial intelligence is no longer regarded merely as a technical innovation; rather, it is conceptualized as a multidimensional element that transforms instructional processes, assessment and evaluation practices, and the roles of teachers and students. The rapid proliferation of generative artificial intelligence tools, in particular, has created new opportunities in areas such as text generation, content development, feedback provision, and evaluation processes. At the same time, however, it has significantly intensified debates concerning reliability, ethical use, and academic integrity (Mao et al., 2024; Aykan, 2025). This transformation underscores the need to address artificial intelligence in education not only as a technical matter but also as a professional and pedagogical concern.

The literature indicates that artificial intelligence offers substantial opportunities in domains such as learning analytics, personalized learning, natural language processing, time efficiency for teachers, and the monitoring of student performance (Boztepe, 2025). Studies based on teachers' perspectives further reveal that artificial intelligence is actively utilized in processes including content creation, question preparation, data analysis, activity design, and performance tracking (Seyrek et al., 2024). These findings suggest that AI-supported systems have the potential to facilitate individualized learning pathways and enhance the development of instructional materials. From this perspective, artificial intelligence emerges as a supportive tool with the capacity to transform the quality of teaching and learning processes.

Nevertheless, the use of artificial intelligence in education is also associated with significant ethical and pedagogical risks, including concerns related to data privacy, algorithmic bias, the weakening of human interaction, and the

---

<sup>1</sup> Assist. Prof. Dr., Ege University, Faculty of Education, <https://orcid.org/0000-0002-7165-7312>

<sup>2</sup> Assoc. Prof. Dr., Ege University, Faculty of Education, <https://orcid.org/0000-0003-2532-8136>

<sup>3</sup> Assist. Prof. Dr., Ege University, Faculty of Education, <https://orcid.org/0000-0002-2440-0434>

persistence of the digital divide (Boztepe, 2025). In a similar vein, issues such as transparency, bias, privacy, security, discrimination, accountability, and the risks of misinformation and disinformation are identified as central ethical challenges in the use of artificial intelligence in education (Temur, 2025). Accordingly, it is emphasized that the ethical and trustworthy use of artificial intelligence in educational contexts should be grounded in principles such as transparency, accountability, explainability, human-centeredness, fairness, privacy, and data security (Nguyen et al., 2023; Temur, 2025). Consequently, the integration of these technologies into educational environments necessitates a balanced approach that simultaneously considers both their potential benefits and inherent risks.

Within this context, SWOT analysis provides a comprehensive analytical framework for evaluating the strengths and weaknesses of artificial intelligence tools in education, as well as the opportunities they present and the threats they may pose. For instance, Budak Durmuş (2024), who examined the use of ChatGPT in education through a SWOT framework, demonstrated that participants' views can be systematically categorized under the dimensions of strengths, weaknesses, opportunities, and threats. Similarly, Panja (2025) analyzed the literature on artificial intelligence in education through a SWOT perspective and concluded that this framework is well-suited for conducting a holistic evaluation of the educational potentials, limitations, opportunities, and threats associated with artificial intelligence.

Existing research has explored teachers' and preservice teachers' perspectives on artificial intelligence from various angles, including their general views, perceptions, attitudes, levels of literacy, and metaphorical conceptualizations. Studies grounded in teachers' perspectives indicate that artificial intelligence is often considered in terms of its capacity to facilitate instructional processes and support learning (Köse et al., 2023; Seyrek et al., 2024). Köse et al. (2023) found that teachers believe artificial intelligence can ease their workload and contribute to the creation of engaging and lasting learning environments for students; however, they also express concerns regarding data privacy, potential inequalities among students, and the possibility of fostering student dependency or reduced effort. Similarly, Seyrek et al. (2024) reported that teachers utilize artificial intelligence in tasks such as question preparation, content development, activity design, data analysis, and performance monitoring, while simultaneously expressing concerns about issues such as decreased student motivation, reduced creativity, data breaches, and inequalities stemming from disparities in access to technology.

Metaphor-based studies conducted with preservice teachers reveal that artificial intelligence and ChatGPT in education are interpreted through both positive and negative conceptual frameworks. Ağmaz and Ergüleç (2024) demonstrated that preservice teachers associate artificial intelligence with positive categories such as intelligent tutoring systems, personalized learning environments, and conversational agents, while also linking it to negative themes involving concerns and potential risks. Aykan (2025) found that ChatGPT is conceptualized by preservice teachers through positive metaphors such as a “repository of knowledge” and a “helper” or “guide,” as well as through negative metaphors such as a “black box” or an “incomprehensible power,” reflecting concerns related to reliability and transparency. In a study focusing specifically on Turkish language teacher candidates, Doğan (2025) examined the relationship between attitudes toward artificial intelligence and levels of AI literacy, concluding that both should be taken into careful consideration within the context of preservice teacher education.

Despite the presence of studies examining Turkish language teacher candidates’ views, attitudes, concerns, and evaluations regarding the use of artificial intelligence in language teaching, there appears to be no study that directly investigates these perspectives within a comparative framework that considers both their prospective roles as teachers and their current experiences as students, while also employing a SWOT analytical approach. Accordingly, the present study aims to examine the reflections of increasingly widespread artificial intelligence tools in education on both the teaching profession and student experience, within the framework of strengths, weaknesses, opportunities, and threats, based on the perspectives of Turkish language teacher candidates. SWOT analysis is employed in this study because it enables the simultaneous consideration of both the existing positive and negative characteristics of artificial intelligence use and its future-oriented opportunities and risks within a unified analytical framework.

In line with this aim, the study seeks to answer the following research questions:

1. How do Turkish language teacher candidates evaluate the strengths, weaknesses, opportunities, and threats of artificial intelligence tools in relation to the teaching profession?
2. How do Turkish language teacher candidates evaluate the strengths, weaknesses, opportunities, and threats of artificial intelligence tools in relation to their experiences as students?

## Method

### Research Design

This study was conducted using a qualitative research approach aimed at revealing participants' views holistically within their natural context (Yıldırım & Şimşek, 2021). The data were analyzed through content analysis, and SWOT was employed as an overarching analytical framework to classify the codes under the categories of strengths, weaknesses, opportunities, and threats. In this way, the study sought to present a comprehensive understanding of how participants interpret artificial intelligence in terms of both their prospective roles as teachers and their current experiences as students.

### Participants

The study group consisted of preservice teachers enrolled in the Turkish Language Teaching undergraduate program at a state university during the spring semester of the 2024–2025 academic year. In determining the study group, purposive sampling was employed, as it allows for the selection of participants with specific characteristics aligned with the research purpose. The study aimed to reach preservice Turkish language teachers who use artificial intelligence applications or have experience utilizing AI-supported tools in educational processes. Within this scope, participants were asked whether they had previously used any artificial intelligence tools for purposes such as education, homework, research, writing, content creation, or similar activities. Those who responded affirmatively were included in the study on a voluntary basis. Data were collected from a total of 40 preservice Turkish language teachers. Ensuring an equal number of participants from each grade level was preferred in order to provide a balanced representation of perspectives on artificial intelligence use across different stages of undergraduate education. The distribution of participants in the study group according to grade level and gender is presented in Table 1.

Table 1. *Distribution of Participants by Grade Level and Gender*

Grade Level	Female (n)	Female (%)	Male (n)	Male (%)	Total (n)	Total (%)
1	5	12.5	5	12.5	10	25.0
2	3	7.5	7	17.5	10	25.0
3	5	12.5	5	12.5	10	25.0
4	3	7.5	7	17.5	10	25.0
Total	16	40.0	24	60.0	40	100.0

### **Data Collection Instrument**

In this study, a two-part data collection form developed by the researchers was used. The first part of the form included personal information questions aimed at identifying participants' gender and grade level, while the second part consisted of open-ended questions designed to determine preservice Turkish language teachers' views on the effects of artificial intelligence tools on their educational experiences. In order to enable participants to evaluate the same phenomenon from both the perspective of the teaching profession and the student experience, two main questions were included in the form:

“From a teacher’s perspective, what are the effects of using artificial intelligence tools on your profession? Please evaluate in terms of strengths, weaknesses, opportunities, and threats.”

“From a student’s perspective, what are the effects of using artificial intelligence tools on your educational experience? Please evaluate in terms of strengths, weaknesses, opportunities, and threats.”

Participants were asked to respond to these questions in line with the four fundamental dimensions of SWOT analysis: strengths, weaknesses, opportunities, and threats. In order to ensure the content validity of the form, expert opinions were sought from two specialists—one in Turkish Education and one in Computer and Instructional Technologies Education. Based on the feedback received, the clarity, comprehensibility, and alignment of the questions with the research purpose were reviewed and refined. Through this structure, it was aimed to present preservice teachers' views on artificial intelligence in a holistic manner, considering both their future roles as teachers and their current experiences as students.

### **Data Collection Process**

The data were collected through the data collection form administered face-to-face by the researchers to preservice Turkish language teachers studying at the relevant university. Prior to the implementation, participants were informed that participation was voluntary and were provided with information about the purpose of the study. The administration of the form took approximately 15–20 minutes. The completed forms were reviewed, and since no form was found to be incomplete or lacking valid responses relevant to the research purpose, all forms were included in the analysis. The analysis was conducted on 40 completed forms.

## **Data Analysis**

In the analysis of the research data, content analysis was employed, as it enables the systematic coding of similar meaning patterns in textual data and the organization of these codes under higher-level categories or themes (Krippendorff, 2018). In this study, the analysis process was conducted within the framework of SWOT analysis. Initially, participant forms were examined individually, and responses were organized separately according to teacher and student perspectives. Subsequently, participant statements were coded based on the dimensions of SWOT analysis: strengths, weaknesses, opportunities, and threats. During the coding process, statements with similar meanings were grouped together and categorized under common codes. The frequency values of the obtained codes were calculated, and the findings were presented in tabular form. Frequencies indicate how many times a particular code appeared in participant responses.

In order to present the findings more clearly and comparatively, strengths, weaknesses, opportunities, and threats related to teacher and student perspectives were organized into separate tables. In this study, strengths and weaknesses were evaluated as the positive and negative characteristics of artificial intelligence tools that directly reflect on teacher and student roles within the current usage process. Opportunities and threats, on the other hand, were considered as potential areas of development and risks that may emerge as these tools become more widespread in educational processes. The presence of some codes in both the strength/opportunity and weakness/threat dimensions stems from participants' differing evaluations of the same phenomenon in terms of current usage conditions and potential future implications.

SWOT dimensions were used as predefined main categories, while sub-codes were developed inductively from participant responses. Each participant response was divided into meaning units, and in cases where multiple views were expressed within a single response, each view was coded as a separate meaning unit. Previous research has also demonstrated that the SWOT approach is effective in systematically classifying views on artificial intelligence in education, while content analysis is functional in revealing the meaning patterns within participant statements (Budak Durmuş, 2024; Panja, 2025).

## **Reliability and Consistency**

In order to ensure the reliability and consistency of the study, the data collection form was reviewed by experts and revised in line with their feedback. The codes obtained during data analysis and their distribution across SWOT dimensions were independently examined by two field experts. By comparing expert evaluations, instances of agreement and disagreement in coding were identified. Inter-coder

reliability was calculated using the formula proposed by Miles and Huberman (1994):  $\text{Reliability} = \text{Agreement} / (\text{Agreement} + \text{Disagreement})$ . The agreement rate was calculated based on expert evaluations regarding the placement of codes into sub-categories. As a result of the calculation, the agreement rate was found to be 90%, indicating that the coding process was reliable. In inter-coder reliability calculations, agreement rates of 80% or higher are generally considered acceptable (Baltacı, 2017).

### Findings

In this section, the findings obtained from the views of preservice Turkish language teachers regarding artificial intelligence tools are presented within the framework of SWOT analysis, based on both teacher and student perspectives. Participant statements were classified under the categories of strengths, weaknesses, opportunities, and threats, and the prominent codes within each dimension were evaluated together with their frequency distributions.

In the presentation of the findings, views are first addressed from the perspective of the teacher identity, followed by those based on student experience. In this way, a holistic understanding is provided of how preservice teachers make sense of artificial intelligence in terms of both their future professional roles and their current learning experiences. Within this framework, the findings indicate that participants' perceptions of artificial intelligence are not limited to solely positive or negative aspects; rather, they simultaneously evaluate the opportunities these technologies offer for the educational process alongside the limitations and risks they entail.

Frequency values represent not the number of participants but the number of meaning units corresponding to a particular code. When a participant's response contained more than one meaning unit, each unit was coded separately. Therefore, the total frequencies exceed the number of participants.

### SWOT Findings from the Teacher Perspective

Table 2. *Codes related to the strengths dimension from the teacher perspective*

<i>Code</i>	<i>f</i>	<i>%</i>
Supporting instructional design	39	23.5
Reducing workload	35	21.1
Time saving	33	19.9
Creativity	18	10.8
Access to information/resources	16	9.6
Increasing motivation, interest, and participation	11	6.6
Supporting individualized learning	8	4.8
Professional development	4	2.4
Cost-effectiveness	2	1.2
Total	166	100.0

In Table 2, a total of 166 coded meaning units were identified under the dimension of strengths from the teacher perspective. The code with the highest frequency is supporting instructional design ( $f = 39, 23.5\%$ ). This is followed by reducing workload ( $f = 35, 21.1\%$ ) and time saving ( $f = 33, 19.9\%$ ). These findings indicate that participants evaluate artificial intelligence, particularly in terms of the teaching role, as a tool that supports instructional preparation and reduces professional workload. Participant P17 supported this view with the statements “*it reduces workload*” and “*it saves time.*” Similarly, P21 used the expressions “*it saves time*” and “*it increases content diversity.*” P32, on the other hand, emphasized the supportive function of artificial intelligence in the instructional process through the expressions “*effective lesson planning*” and “*time saving.*”

Table 3. Codes related to the weaknesses dimension from the teacher perspective

<i>Code</i>	<i>f</i>	<i>%</i>
Laziness and reliance on ready-made solutions	32	21.2
Incorrect information, information pollution, and reliability issues	22	14.6
Loss of creativity and originality	18	11.9
Loss of social interaction/emotional engagement	16	10.6
Loss of teacher role, professional identity, and competence	14	9.3
Uncontrolled use	12	7.9
Dependency	12	7.9
Technological/AI limitations	11	7.3
Access and infrastructure problems	8	5.3
Privacy, data security, and confidentiality risks	6	4.0
Total	151	100.0

In Table 3, a total of 151 coded meaning units were identified under the dimension of weaknesses from the teacher perspective. The highest frequency ( $f = 32, 21.2\%$ ) is observed in the code of laziness and reliance on ready-made solutions. This is followed by incorrect information, information pollution, and reliability issues ( $f = 22, 14.6\%$ ), as well as loss of creativity and originality ( $f = 18, 11.9\%$ ). These findings indicate that preservice teachers evaluate the weaknesses of artificial intelligence use not only in terms of technological limitations but also in relation to accessing accurate information, productivity, and creative thinking skills.

Participant P12 addressed issues of security and dependency with the statements “*it may be weak in terms of data protection/privacy*” and “*it may lead to excessive dependency.*” P23 pointed to concerns regarding thinking skills and reliability with the expressions “*creativity decreases*”, “*laziness occurs*”, and “*it may not be reliable.*” Similarly, P33 expressed the weaknesses in a multidimensional manner through the statements “*technology addiction*”,

“getting accustomed to ready-made solutions”, “incorrect information” and “information pollution.”

Table 4. Codes related to the opportunities dimension from the teacher perspective

<i>Code</i>	<i>f</i>	<i>%</i>
Supporting instructional design, material design, and assessment	28	19.3
Time saving	24	16.6
Reducing workload	22	15.2
Creativity, productivity, and different perspectives	20	13.8
Professional development, digital competence, and new opportunities	15	10.3
Access to information/resources	15	10.3
Motivation, interest, and active participation	10	6.9
Supporting individualized, inclusive, and flexible learning	8	5.5
Language learning	2	1.4
Cost-effectiveness	1	0.7
Total	145	100.0

In Table 4, a total of 145 coded meaning units were identified under the dimension of opportunities from the teacher perspective. It is observed that the most prominent opportunity of artificial intelligence in terms of teaching is supporting instructional design, material design, and assessment processes ( $f = 28, 19.3\%$ ). This is followed by time saving ( $f = 24, 16.6\%$ ) and reducing workload ( $f = 22, 15.2\%$ ). These findings indicate that preservice teachers view artificial intelligence as an important opportunity in terms of lesson planning, instructional material design, organizing assessment activities, and reducing professional workload.

Participant P12 explained the opportunity dimension with the statements “*innovative teaching methods can be developed*”, “*it enables the development of professional skills*” and “*it increases the participation of students with disabilities in the classroom.*” P16 emphasized the contribution of artificial intelligence to instructional design through the expressions “*effective planning*”, “*monitoring student progress*”, “*effective assessment*” and “*personalized learning.*” Similarly, P36 highlighted the opportunities provided in terms of content creation and access to resources through the statements “*it provides ideas*”, “*it enables easy access to information*”, “*preparing presentations*” and “*designing materials.*”

Table 5. Codes related to the threats dimension from the teacher perspective

Code	f	%
Loss of teacher role, professional identity, and workforce reduction	36	25.0
Laziness, reliance on ready-made solutions, and reduced learning responsibility	21	14.6
Weakening of creativity, thinking, and learning skills	17	11.8
Incorrect information, information pollution, and reliability issues	12	8.3
Privacy, data security, and confidentiality risks	11	7.6
Uncontrolled use	11	7.6
Dependency	10	6.9
Technological/AI limitations and system errors	9	6.2
Reduced social interaction and human contact	9	6.2
Ethical problems and academic dishonesty (e.g., plagiarism)	5	3.5
Digital divide and unequal access	3	2.1
Total	144	100.0

In Table 5, a total of 144 coded meaning units were identified under the dimension of threats from the teacher perspective. The most frequent perceived threat among preservice teachers ( $f = 36$ , 25.0%) is related to the loss of the teacher role, professional identity, and workforce reduction. This is followed by laziness, reliance on ready-made solutions, and reduced learning responsibility ( $f = 21$ , 14.6%), as well as the weakening of creativity, thinking, and learning skills ( $f = 17$ , 11.8%). This distribution indicates that preservice teachers address the threats of artificial intelligence particularly in relation to the future of the teaching profession, students' learning responsibility, and the weakening of thinking skills.

Participant P32 evaluated professional and ethical risks together with the statements “*security and data privacy*”, “*technology addiction*”, “*reduction in the teacher’s role*” and “*job loss concerns.*” P37 drew attention to the teaching role and interaction dimension with the expressions “*it may hinder the work of material designers*”, “*it may encourage teachers to rely on ready-made content*” and “*it may harm the relationship between teacher and student.*” Similarly, P23 emphasized professional transformation and security risks through the statements “*the need for the profession may decrease*”, “*personal data may be leaked*” and “*cyberattacks may occur.*”

## SWOT Findings from the Student Perspective

Table 6. Codes related to the strengths dimension from the student perspective

Code	f	%
Access to information/resources	33	22.3
Time saving	31	20.9
Learning and feedback support	25	16.9
Motivation, interest, and engagement	16	10.8
Creativity, problem-solving, and content creation	14	9.5
Facilitating life and learning processes	10	6.8
Digital competence, technology use, and new opportunities	9	6.1
Efficiency, quality, and learning effectiveness	8	5.4
Individualized/inclusive learning	2	1.4
Total	148	100.0

In Table 6, a total of 148 coded meaning units were identified under the dimension of strengths from the student perspective. As shown in the table, the most prominent strength of artificial intelligence use in the student role is access to information and resources ( $f = 33$ , 22.3%). This is followed by time saving ( $f = 31$ , 20.9%) and learning and feedback support ( $f = 25$ , 16.9%). These findings indicate that participants position artificial intelligence, from a student perspective, as a tool that facilitates access to information, supports academic tasks, and accelerates the learning process.

Participant P16 used the expressions “*better preparation*”, “*time saving*”, “*increased motivation and interest*”, “*effective learning*” and “*easy access.*” P23 emphasized speed, task support, and access to information in the student experience through the statements “*it saves time*”, “*it facilitates assignments*” and “*information is accessed more quickly.*” Similarly, P19 highlighted information access and academic support functions with the expressions “*information is easily accessible*”, “*it enables permanent learning*”, “*it provides quick answers to questions*” and “*it contributes to lessons and assignments.*”

Table 7. Codes related to the weaknesses dimension from the student perspective

Code	f	%
Incorrect information, information pollution, and reliability issues	28	20.6
Laziness, reliance on ready-made solutions, and a decrease in long-term learning retention	25	18.4
Dependency, loss of attention, and reduced productivity	23	16.9
Technological/AI limitations	18	13.2
Loss of creativity, critical thinking, and originality	15	11.0
Loss of social/emotional interaction	11	8.1
Inequality, access, and infrastructure problems	9	6.6
Academic integrity issues	5	3.7
Privacy, data security, and confidentiality risks	2	1.5
Total	136	100.0

In Table 7, a total of 136 coded meaning units were identified under the dimension of weaknesses from the student perspective. As shown in the table, the highest frequency ( $f = 28$ , 20.6%) is observed in the code of incorrect information, information pollution, and reliability issues. This is followed by laziness, reliance on ready-made solutions, and a decrease in long-term learning retention ( $f = 25$ , 18.4%), as well as dependency, loss of attention, and reduced productivity ( $f = 23$ , 16.9%). This distribution indicates that participants perceive the use of artificial intelligence in the student experience as particularly problematic in terms of information accuracy, learning responsibility, dependency, and academic productivity.

Participant P20 pointed to technological limitations and reliability issues with the statements “*it is unreliable*”, “*it cannot establish various connections,*” and “*it cannot approach everything from different perspectives.*” P32 explained the weaknesses in terms of access, dependency, reliability concerns, and insufficient interaction through the expressions “*access problems*”, “*dependency*”, “*concerns about reliability*” and “*insufficient interaction.*” Similarly, P36 addressed both reliability and the risk of relying on shortcuts with the statements “*misleading information*” and “*it encourages taking the easy way out.*”

Table 8. Codes related to the opportunities dimension from the student perspective

Code	<i>f</i>	%
Academic task, learning, and assessment support	23	16.1
Time saving	21	14.7
Access to information/resources	20	14.0
Motivation, interest, and participation	19	13.3
Creativity and productivity	18	12.6
Digital competence	12	8.4
Facilitating life and learning processes	11	7.7
Efficiency and quality	6	4.2
Material/content production and visualization	5	3.5
Access equality	4	2.8
Collaboration, interaction, and socialization	4	2.8
Total	143	100.0

In Table 8, a total of 143 coded meaning units were identified under the dimension of opportunities from the student perspective. The most prominent opportunity in the student role is academic task, learning, and assessment support ( $f = 23$ , 16.1%). This is followed by time saving ( $f = 21$ , 14.7%), access to information and resources ( $f = 20$ , 14.0%), and motivation, interest, and participation ( $f = 19$ , 13.3%). These findings indicate that participants evaluate artificial intelligence, from a student perspective, as an opportunity that supports academic tasks, accelerates the learning process, facilitates access to information resources, and increases interest in learning.

Participant P31 emphasized motivation and productivity through the expressions “*productivity*”, “*increased willingness to study*”, “*studying with enjoyment*,” and “*variety of activities*.” P22 highlighted academic task support and planning functions with the statements “*it helps with assignments*” and “*it can create daily and weekly plans*.” Similarly, P27 stated that artificial intelligence can provide multidimensional support for students through the expressions “*assignment assistance*”, “*career guidance*” and “*exam preparation*.”

Table 9. Codes related to the threats dimension from the student perspective

Code	f	%
Dependency	37	25.2
Incorrect information, information pollution, and reliability issues	22	15.0
Laziness, reliance on ready-made solutions, and reduced learning responsibility	21	14.3
Loss of creativity, thinking, originality, and homogenization	19	12.9
Privacy, data security, and confidentiality risks	14	9.5
Loss of social/emotional interaction	14	9.5
Uncontrolled use and ethical issues	14	9.5
Loss of teacher role and professional prestige	4	2.7
Access risks	2	1.4
Total	147	100.0

In Table 9, a total of 147 coded meaning units were identified under the dimension of threats from the student perspective. The most frequently reported threat in the student role is dependency ( $f = 37$ , 25.2%). This is followed by incorrect information, information pollution, and reliability issues ( $f = 22$ , 15.0%), as well as laziness, reliance on ready-made solutions, and reduced learning responsibility ( $f = 21$ , 14.3%). This distribution indicates that participants associate the use of artificial intelligence in the student context not only with academic convenience but also with risks such as dependency, incorrect learning, reliance on ready-made answers, loss of original production, and ethical concerns.

Participant P17 explained the threats in terms of dependency, laziness, creativity, and social interaction with the statements “*it creates dependency*”, “*it leads to laziness*”, “*creativity decreases*” and “*social interaction decreases.*” Similarly, P33 emphasized issues of uncontrolled use and reliability concerns through the expressions “*dependency*”, “*laziness*”, “*negative use of technology*”, “*reliance on ready-made answers*” and “*information pollution.*” P40, on the other hand, drew attention to security and time-management risks with the statements “*our passwords may be stolen*” and “*time problems may occur.*”

## Discussion

In this study, preservice Turkish language teachers’ views on the use of artificial intelligence in education were examined within the framework of SWOT analysis, based on teacher and student roles. Within the scope of the research, a total of 1,180 meaning units were coded, including 606 from the teacher perspective and 574 from the student perspective. This indicates that participants do not perceive the use of artificial intelligence as a unidimensional

technological phenomenon; rather, they evaluate it in a multifaceted manner, encompassing instructional, academic, ethical, professional, and pedagogical dimensions. Overall, the findings suggest that preservice teachers view artificial intelligence both as a functional tool that supports teaching and learning processes and as a technology that may generate various pedagogical, ethical, and professional risks when used without control.

One of the most striking findings of the study is that artificial intelligence is primarily perceived as a tool that provides instructional support in relation to the teaching profession. The prominence of codes such as “support for instructional design, material production, and assessment,” “time saving,” and “reducing workload” under the strengths and opportunities dimensions of the teacher perspective indicates that preservice teachers consider artificial intelligence an important assistant in lesson planning, activity development, material preparation, assessment organization, and diversification of the instructional process. This finding is consistent with the literature suggesting that artificial intelligence tools support teachers in instructional processes, can be used in content and activity development, and contribute to the personalization of learning processes (Boztepe, 2025; Seyrek et al., 2024). Studies addressing the use of ChatGPT/artificial intelligence in education through SWOT analysis similarly identify instructional support, personalized learning, content/material development, accessibility, and process efficiency as strengths and opportunities of artificial intelligence (Budak Durmuş, 2024; Panja, 2025).

The findings regarding the teaching role suggest that artificial intelligence should not be positioned as a mechanism that replaces teachers, but rather as a tool that supports teachers’ pedagogical decision-making processes. Participants’ associations of artificial intelligence with professional tasks such as material production, assessment, lesson planning, and monitoring learning processes indicate that preservice teachers perceive this technology as a practical support system. However, this support should not eliminate the teacher’s pedagogical intuition, classroom observation skills, emotional connection with students, and educational responsibility; instead, it should strengthen teachers’ professional competence. Therefore, in preservice teacher education, not only the technical use of artificial intelligence tools but also their pedagogical integration should be addressed through practice-based approaches.

Another key finding of the study is that, from the student perspective, artificial intelligence is mainly associated with access to information, time saving, academic task support, and facilitation of the learning process. The high frequency of codes such as “access to information/resources,” “time saving,” and “learning and feedback support” under the strengths dimension indicates that

preservice teachers perceive artificial intelligence, in their current student experience, as a tool that facilitates quick access to information, supports homework and research processes, enables revision, provides feedback, and increases learning efficiency. The prominence of academic task support, motivation, interest, and creativity under the opportunities dimension further suggests that artificial intelligence is perceived not only as an information provider but also as a tool that organizes and supports the learning process. This finding is consistent with studies emphasizing that artificial intelligence tools have the potential to support learning processes while also requiring ethical evaluation within educational contexts (Mao et al., 2024; Nguyen et al., 2023).

It is noteworthy that positive evaluations in the student role are largely concentrated around speed, convenience, and academic task support. This suggests that students often perceive artificial intelligence primarily as a system that accelerates and facilitates academic work rather than as a tool that deepens learning. Therefore, students should be encouraged to use artificial intelligence not only to access ready-made information but also to question, compare, reconstruct, produce original texts, and monitor their own learning processes.

A third significant finding is that issues of reliability, ethical use, and data security are perceived as major risk areas in both teacher and student perspectives. In the teacher perspective, weaknesses such as incorrect information, information pollution, and reliability problems, along with risks related to uncontrolled use, privacy, and data security, were prominent. Similarly, in the student perspective, incorrect information, information pollution, reliability concerns, and privacy risks were among the key codes. These results indicate that participants are concerned not only with the advantages of artificial intelligence but also with the accuracy of information produced, its sources, ethical use, and the protection of personal data. In the literature, the potential of artificial intelligence systems to produce incorrect or misleading information is discussed particularly in relation to disinformation risks (Temur, 2025), while algorithmic bias, accountability, explainability, data security, and privacy are identified as key ethical limitations in educational artificial intelligence use (Nguyen et al., 2023; Temur, 2025).

Similarly, policy and ethics documents of the Ministry of National Education (MoNE) emphasize that artificial intelligence use in education should be transparent, human-centered, accountable, fair, accessible, inclusive, and secure in terms of data protection (MoNE, 2025a; 2025b; 2026). In this context, the findings demonstrate that preservice teachers' awareness of artificial intelligence extends beyond functional benefits and includes ethical and reliable use considerations.

The dimension of reliability and ethical use is particularly important for preservice Turkish language teachers. Turkish language teaching is not limited to the transmission of knowledge; it is based on developing reading, comprehension, inquiry, interpretation, critical thinking, and written and oral expression skills. The production of incorrect information, lack of source citation, overreliance on ready-made answers, or weakening of original writing processes by artificial intelligence may conflict with the core objectives of Turkish language education. Therefore, preservice teachers should be trained in verifying AI-generated content, comparing sources, considering plagiarism and copyright issues, maintaining originality in student work, and defining appropriate boundaries for AI use.

Another important finding is the strong presence of concerns regarding professional role and identity in the teacher perspective. The prominence of “loss of teacher role, professional identity, and workforce reduction” in the threats dimension indicates that preservice teachers perceive artificial intelligence not only as a supportive tool but also as a transformative factor that may reshape the future of the teaching profession. While participants acknowledge that artificial intelligence can reduce workload and facilitate teaching processes, they also express concerns about the weakening of the teacher’s role, loss of professional prestige, reduced human interaction, and the transfer of certain professional functions to artificial intelligence systems.

This finding highlights that the impact of artificial intelligence on the teaching profession should be discussed not only in terms of technological competence but also in relation to professional identity and human-centered education. Teaching is not limited to delivering information or preparing materials; it involves guiding students’ cognitive, affective, social, and moral development, managing classroom interaction, identifying learning difficulties, and making value-based pedagogical decisions. Therefore, artificial intelligence should not be considered a substitute for teachers but rather a complementary tool that enables more effective instructional design and closer student support.

A further finding is that the use of artificial intelligence has important pedagogical implications for Turkish language education. Participants’ emphasis on information access, content creation, text production, idea generation, academic task support, and feedback suggests that artificial intelligence tools may support reading, writing, listening/viewing, and speaking skills in Turkish language courses. However, concerns regarding misinformation, reliance on ready-made content, reduced long-term learning retention, loss of originality, homogenization, and academic integrity indicate that these tools should be

approached within a critical and ethical pedagogical framework rather than as mere facilitative technologies.

In this context, AI-supported Turkish language teaching should be considered together with critical literacy, digital literacy, and artificial intelligence literacy skills. Students should be encouraged not to accept AI-generated texts uncritically, but to evaluate their accuracy, source reliability, coherence, contextual appropriateness, and originality. In this way, artificial intelligence can be transformed from a tool that merely provides ready-made information into a learning support system that enhances text evaluation, source verification, and critical thinking skills.

In writing education in particular, artificial intelligence can be used for drafting, idea development, text revision, detecting language errors, and generating alternative expressions. However, this use should not be reduced to a technology that produces texts on behalf of students. AI-supported writing activities in Turkish language classes should be designed as process-oriented rather than product-oriented; students should be expected to evaluate AI outputs, revise them, compare them with sources, and improve them using their own expression.

Considering the objectives emphasized in the Century of Türkiye Education Model and the Turkish language curriculum—such as critical thinking, productivity, communication, digital competence, access to accurate and reliable information, and effective use of language—the integration of artificial intelligence tools into Turkish language teaching should be structured under teacher guidance and in a way that supports active cognitive engagement. Therefore, preservice Turkish language teacher education programs should include artificial intelligence literacy components such as effective prompt engineering, evaluation of AI outputs, detection of misinformation, source verification, awareness of plagiarism and copyright, data security, and protection of originality in writing processes.

### **Limitations**

This study is limited to the views of 40 preservice teachers enrolled in the Turkish Language Teaching Undergraduate Program at a state university. The data were collected through self-reports obtained via open-ended questions. Therefore, the findings reflect participants' perceptions and evaluations of artificial intelligence tools; they do not directly represent their actual in-class implementation performance.

In addition, data were collected through two open-ended questions and short written responses, which limited the depth of inquiry into participants' views. In

future studies, data collection processes supported by interviews, focus groups, or practical applications may provide more in-depth insights.

## **Recommendations**

### **Practice-Oriented Recommendations**

Preservice Turkish language teachers can be provided with applied training on artificial intelligence literacy, ethical use, and information verification.

Sample lesson plans, classroom activities, and assessment tools integrating artificial intelligence into Turkish language teaching can be developed.

Awareness of data security, privacy, copyright, and plagiarism issues among preservice teachers should be enhanced.

Classroom activities can be designed in which AI-generated outputs are evaluated in terms of accuracy, source reliability, coherence, originality, and language quality.

Preservice teachers can be assigned applied tasks related to drafting, text revision, source verification, and ethical use within AI-supported writing processes.

### **Research-Oriented Recommendations**

Future studies may examine preservice teachers' use of artificial intelligence through authentic products such as lesson plans and performance-based tasks.

Multi-stakeholder studies involving teachers, preservice teachers, instructors, and parents can be conducted.

Comparative studies may investigate the effects of artificial intelligence use on reading, writing, listening/viewing, and speaking skills in Turkish language teaching.

## References

- Ağmaz, R. F., & Ergüleç, F. (2024). Öğretmen adaylarının eğitimde yapay zekâ algıları: Bir metafor analizi. *Necmettin Erbakan Üniversitesi Ereğli Eğitim Fakültesi Dergisi*, 6(2), 589–605. <https://doi.org/10.51119/ereegf.2024.97>
- Aykan, A. (2025). Teacher candidates' metaphorical perceptions of ChatGPT. *Journal of STEM Teacher Institutes*, 5(1), 1–12. <https://jstei.com/index.php/jsti/article/view/82>
- Baltacı, A. (2017). Nitel veri analizinde Miles-Huberman modeli. *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 3(1), 1–14. <https://dergipark.org.tr/en/pub/aeusbed/article/290583>
- Boztepe, C. (2025). Eğitimde yapay zekâ uygulamaları: Fırsatlar, sınırlılıklar ve etik tartışmalar. *Dumlupınar Üniversitesi Eğitim Bilimleri Enstitüsü Dergisi*, 9(1), 98–121. <https://doi.org/10.71272/debder.1706141>
- Budak Durmuş, F. (2024). SWOT analysis of the use of ChatGPT in education. *Journal of Educational Studies and Multidisciplinary Approaches*, 4(2), 121–137. <https://doi.org/10.51383/jesma.2024.102>
- Doğan, F. N. (2025). Türkçe öğretmeni adaylarının yapay zekâyâ yönelik tutumları ile yapay zekâ okuryazarlık düzeyleri arasındaki ilişki. *International Journal of Language Academy*, 13(4), 197–215. <https://doi.org/10.29228/ijla.88194>
- Köse, B., Radıf, H., Uyar, B., Baysal, İ., & Demirci, N. (2023). Öğretmen görüşlerine göre eğitimde yapay zekânın önemi. *Journal of Social, Humanities and Administrative Sciences*, 9(71), 4203–4209. <https://doi.org/10.29228/JOSHAS.74125>
- Krippendorff, K. (2018). *Content analysis: An introduction to its methodology* (4th ed.). SAGE Publications.
- Mao, J., Chen, B., & Liu, J. C. (2024). Generative artificial intelligence in education and its implications for assessment. *TechTrends*, 68, 58–66. <https://doi.org/10.1007/s11528-023-00911-4>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.
- Ministry of National Education [MoNE]. (2025a). *Eğitimde yapay zekâ politika belgesi ve eylem planı (2025–2029)*. Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü. [https://yegitek.meb.gov.tr/meb\\_iys\\_dosyalar/2025\\_06/17092340\\_egitimde\\_eyapayzekapolitikabelgesiveeylemplani202520291.pdf](https://yegitek.meb.gov.tr/meb_iys_dosyalar/2025_06/17092340_egitimde_eyapayzekapolitikabelgesiveeylemplani202520291.pdf)
- Ministry of National Education [MoNE]. (2025b). *Yapay zekâ etiği tavsiyeleri*. Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü.

[https://yegitek.meb.gov.tr/meb\\_iys\\_dosyalar/2025\\_10/22165423\\_yapay\\_zeka\\_etigi\\_tavsiyeleri\\_22102025\\_webformati.pdf](https://yegitek.meb.gov.tr/meb_iys_dosyalar/2025_10/22165423_yapay_zeka_etigi_tavsiyeleri_22102025_webformati.pdf)

- Ministry of National Education [MoNE]. (2026). *Eğitimde yapay zekâ uygulamaları etik kılavuzu*. Talim ve Terbiye Kurulu Başkanlığı. [https://ttkb.meb.gov.tr/meb\\_iys\\_dosyalar/2026\\_01/09152326\\_egitimdeya\\_payzekauygulamaları\\_etik\\_kilavuzu.pdf](https://ttkb.meb.gov.tr/meb_iys_dosyalar/2026_01/09152326_egitimdeya_payzekauygulamaları_etik_kilavuzu.pdf)
- Nguyen, A., Ngo, H. N., Hong, Y., Dang, B., & Nguyen, B.-P. T. (2023). Ethical principles for artificial intelligence in education. *Education and Information Technologies*, 28, 4221–4241. <https://doi.org/10.1007/s10639-022-11316-w>
- Panja, S. K. (2025). Artificial intelligence in education: SWOT analysis. *Bulletin of Science, Technology & Society*, 45(3–4), 75–88. <https://doi.org/10.1177/02704676251371993>
- Seyrek, M., Şahin, A., Yıldız, S., Türkmen, M. T., & Emeksiz, H. (2024). Öğretmenlerin eğitimde yapay zekâ kullanımına yönelik algıları. *Uluslararası Sosyal ve Beşeri Bilimler Araştırma Dergisi*, 11(106), 845–856. <https://doi.org/10.5281/zenodo.11113077>
- Temur, S. (2025). Eğitimde yapay zekâ kullanımı: Etik sorunlar ve çözümler. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 74, 568–595. <https://doi.org/10.21764/maeuefd.1516576>
- Yıldırım, A., & Şimşek, H. (2021). *Sosyal bilimlerde nitel araştırma yöntemleri* (12. bs.). Seçkin Yayıncılık.

## Chapter 2

---

# Principles of Explanatory Learning Strategies in Learning Process

Fethi KAYALAR<sup>1</sup>

### 1. Introduction

Learning is a crucial process and activity conducted in schools, particularly in the classroom, and many components influence learning. Learning significantly impacts students' learning outcomes. Learning can be defined as the product of continuous interaction between development and life experiences. Therefore, at its core, learning is a teacher's conscious effort to educate their students and aims to guide their interactions with other learning resources to achieve learning goals.

Learning is an activity undertaken by teachers or educators to encourage, guide, mentor, motivate, and organize the learning process so that students can acquire knowledge and culture and develop their skills in accordance with the aims of educational activities. Based on this explanation, it can be concluded that learning is a process that takes place in the classroom and is a series of actions by teachers or educators towards students, including activities such as guiding, encouraging, directing, motivating, and organizing.

In the world of education, strategy is defined as a plan, method, or sequence of activities designed to achieve a specific educational goal. In other words, a learning strategy is a plan that includes a series of activities designed to achieve specific educational goals. The general definition of a learning strategy is the outline of the paths to be followed to achieve predetermined goals. In relation to teaching and learning, strategies can also be interpreted as the general patterns of teacher and student activities in implementing teaching and learning activities to achieve the defined goals.

The use of strategies in the learning process is essential because it facilitates the learning process and thus leads to optimal results. Without a clear strategy, the learning process cannot be directed, achieving the defined learning goals at an optimal level will be difficult, in other words, learning cannot take place effectively and efficiently. Learning strategies are highly beneficial for both teachers and students. For teachers, strategies can be used as a guide and reference for systematic action in implementing learning. For students, the use of learning

---

<sup>1</sup> Prof. Dr., Erzincan Binali Yıldırım Üniversitesi, Eğitim Fakültesi, [fkayalar@erzincan.edu.tr](mailto:fkayalar@erzincan.edu.tr)

strategies can facilitate the learning process because each learning strategy is designed to facilitate the learning process for students. With the digitalization of the world and the resulting introduction of innovations into our lives in parallel with needs, information and communication technologies have become an indispensable part of our lives.

One of the problems facing our education system is weak learning processes. Children are not encouraged to think analytically in the learning process. The learning process in the classroom is geared towards children memorizing information without needing to understand it in order to relate the information they remember to their daily habits. This is because learning strategies are not used correctly in every learning process in the classroom. Therefore, strategy is important in the learning process and in achieving the goal. Today, strategies are used in the learning process in order to implement the activity designs and achieve the learning objectives. Learning strategies include sequences or activity plans designed and organized to achieve specific goals, with methods and environments used according to the conditions of the learning environment (Kayalar and Güler Arı, 2017).

Students need to be able to acquire as much information as possible in the shortest possible time and be more efficient. The important thing is for students to develop their mastery within the framework of basic concepts or basic understanding patterns related to something, and thus be able to organize data, information, and experiences related to that thing. Meanwhile, among the schools of learning psychology that are very effective in explanatory learning strategies is the Behaviourist learning theory. Behaviourist learning places more emphasis on understanding that human behaviour is fundamentally a relationship between stimulus and response, therefore the teacher's role as stimulus provider is a very important factor in its application.

Based on the above information, learning objectives and various formulations of the material to be discussed can be drawn up as (1) to know and understand the meaning of explanatory learning strategies, (2) to know the concepts and principles of using explanatory learning strategies, (3) to find procedures for applying explanatory learning strategies, and (4) to find the advantages and disadvantages of explanatory learning strategies.

## **2. Explanatory Learning Strategies**

Strategy comes from the Greek word, meaning the effort to achieve victory in war. The term strategy was initially used in the military world to mean a way of using all military force to win a war. Now, the term strategy is widely used in various fields of activity aimed at achieving success in achieving goals. The

concept of learning has a broader meaning than the concept of teaching. While teaching is often referred to as a process of learning activity in lessons that are defined as normal, the word learning includes the meaning of the process of enabling people to carry out the learning process appropriately.

Learning is fundamentally a process conducted by teachers and students, thus a learning process occurs in the sense of individual changes in students' own behaviour (Kayalar and Güler Arı, 2016). These changes are “intentional, positive, active, and functionally effective” (Sabri, 2005). Next, there is the explanatory method, the term explanatory coming from the concept of explanation, meaning to make a statement. In the context of learning, explanatory is a strategy used by teachers to explain or clarify facts, ideas, and other important information to students.

The explanatory method is a learning method that primarily involves providing information about the definitions, principles, and concepts of the subject, as well as giving examples from problem-solving exercises in the form of explanation, demonstration, question-and-answer, and homework. Students carefully follow the model determined by the teacher. The use of the explanatory method is a learning method that leads to the direct transfer of the lesson content to the students. Based on this explanation, it can be concluded that the explanatory learning strategy is a learning strategy that emphasizes the process of verbally transferring the material from the teacher to the students in order to enable students to learn the lesson material in the best possible way.

The following are various opinions of experts regarding explanatory learning strategies:

- The Explanatory Learning Strategy is a learning strategy that emphasizes the process of verbally conveying course material from a teacher to a group of students so that students can master the material in accordance with predetermined goals (Sanjaya, 2011).
- The Explanatory Learning Strategy is defined as a learning strategy formulated as emphasizing the process of conveying the material verbally by a teacher to a group of students who will experience learning through speaking or discussion. It aims to enable students to master the learning materials in the best possible way (Gurusinga and Sibarani, 2011).
- The Explanatory Learning Strategy is a direct learning strategy. Because learning is provided directly by the teacher, students do not need to find the material as the course material appears to have been prepared by the teacher. The teacher places more emphasis on the speaking process (Liyusri and Situmorang, 2013).

Roy Killen (1998) called this explanation strategy a direct instruction strategy. In this system, the teacher presents the material in an organized, systematic, and complete manner, so that students only need to listen and assimilate it in an organized and orderly manner. Students also need to master the presented material.

### **3. The Concept of Explanatory Learning Strategies**

According to MacDonald's (2001) definition of strategy, it means "the art of skillfully executing a plan," that is, strategy is the art of skillfully and effectively executing a plan. The term strategy is also used in the world of education, especially in teaching and learning activities. In this context, a learning strategy is understood as an art and knowledge aimed at conducting instruction in the classroom in a way that can effectively and efficiently achieve the applied objectives.

Seels and Richey (1994) explain: "Instructional strategies are specifications related to the selection and sequencing of events and activities within a lesson."

Gulo (2002) concludes that learning strategies are plans and ways of ensuring instruction in a way that all basic principles can be applied and all instructional objectives can be effectively achieved.

According to J. R. David (1976), a learning strategy can be defined as a plan, method, or sequence of activities designed to achieve a specific educational goal which is a learning strategy is a plan containing a series of activities designed to achieve a specific educational goal. A learning strategy is an action plan (a series of activities) that involves the use of methods and the use of various resources or strengths in organized learning to achieve specific goals.

A learning strategy is the teacher's basic plan for how to deliver instruction responsibly in the classroom. Instructional strategy is not the same as instructional design. Because instructional design is a plan for instruction. On the other hand, an instructional plan can only be prepared after the desired instructional model or strategy has been determined. To achieve the planned goals, the teacher must first choose the strategies to be used in instruction. An explanatory learning strategy is a learning strategy that emphasizes the process of speaking or conveying the lesson material in the best way; therefore, this strategy is often also called "speak and speak". Explanatory learning strategies have several characteristics:

- Explanatory learning strategies can be implemented through the oral delivery of course material; This means that oral communication is the main tool in the application of explanatory strategies, which is why people often use the lecturing method.

- The presented topic is usually a ready-made subject, structured like data or facts, with specific concepts to be memorized in a way that does not require students to rethink.
- The main goal of learning is to master the subject itself. This means that after the learning process is complete, students are expected to be able to correctly understand the material presented and to rephrase it.

Explanatory learning is a form of the teacher-centered learning approach. This is because it is said that the teacher plays a very dominant role in this strategy. Through this strategy, teachers present the learning material in a structured way, hoping that the students will learn it well. The main focus of this strategy is the students' academic abilities (academic achievement). The learning method using lectures is a type of explanatory strategy. The explanatory learning method aims to transfer knowledge, skills, and values to students. The teacher's role is to prepare learning programs, provide accurate information, provide good opportunities, and guide students in accessing accurate information.

Teachers who design teaching activities that encourage learning by listening to the teacher's explanations, taking notes, and understanding the lesson material, and who implement these activities as stimuli for students, will create behavioral change in students.

To create an effective learning environment and achieve the best results, attention must be paid to the steps in explanatory learning. Explanatory learning strategies will be effective in the following situations:

- *If the teacher is to present new material and its relationship to what students will learn and need to learn, new material or materials are usually needed for specific activities or for carrying out certain processes, such as problem-solving activities.*
- *If the teacher wants students to have a specific intellectual modeling style; for example, so that students can remember the course material and rephrase it when necessary.*
- *If the course material to be taught is suitable for presentation; this means that the material, in terms of its nature and type, can only be understood by students if presented by the teacher; for example, the course material is research in the form of specific data.*
- *If the teacher wants to pique students' curiosity about a particular topic; for example, stimulating learning materials aimed at increasing students' motivation to learn.*

- *If the teacher wants to demonstrate a specific technique or procedure for hands-on activities*; these procedures are usually standard steps or standard steps to be followed in carrying out a particular process.
- *If all students have the same level of difficulty*; the teacher needs to explain this to all students.
- *If the teacher is going to teach a group of students with a low average ability*; Explanatory strategies are very effective in teaching concepts and skills to children with low abilities and low-achieving students. However, this may be the case if:
- *If the environment does not support the use of student-centered strategies*; for example, there is a lack of necessary facilities and infrastructure.
- *If there is insufficient time to use a student-centered approach*.

#### **4. Principles of Explanatory Learning Strategies**

There is no learning strategy that is considered better than another. Whether a learning strategy is good or not can be understood by whether the strategy is effective in achieving the stated learning objectives. Therefore, the first thing to consider when using learning strategies is which objectives need to be achieved. There are the following principles that every teacher should pay attention to when using explanatory learning strategies:

##### ***4.1. Goal-Oriented***

Although the presentation of the lesson material is the basic feature of explanatory learning strategies that use the lecture method, this does not mean that the process of presenting the material is devoid of learning objectives. The main thing to consider when using this strategy is precisely this objective. Therefore, before implementing this strategy, the teacher should first formulate clear and measurable learning objectives. Like criteria in general, learning objectives should be formulated as measurable behaviors or competencies that students should achieve. Understanding this is crucial because specific objectives allow us to control the effectiveness of using learning strategies.

It is true that explanatory learning strategies may not pursue objectives of higher-level thinking skills, such as the ability to analyze, synthesize, or perhaps evaluate something, but this does not mean that objectives of lower-level thinking skills cannot be pursued. It is precisely this objective that should be used as a measure when employing explanatory strategies.

## ***4.2. Communication Principles***

It can be said that the learning process is a communication process; this refers to the process of transmitting a message from a person as message source to a person or group as message receivers. In this case, the message to be transmitted is the subject matter, organized and structured according to the specific objectives to be achieved.

In the communication process, the teacher acts as the message source, and the students as the message receivers. In the communication process, no matter how simple, there is always a sequence for the transmission of messages (information) from the message source to the message receiver. A communication system is considered effective if the message is easily and completely understood by the receiver. On the other hand, if the receiver cannot grasp every message transmitted, the communication system is considered ineffective. Difficulty in grasping the message can occur due to various disturbances (noise) that can hinder a smooth communication process. As a result of this interference (noise), it is possible for the person receiving the message (student) to not understand the message or not receive it at all. The principle of communication as a learning strategy that emphasizes the delivery process is a very important principle to consider. This means considering what efforts each teacher can make to eliminate any interference that could disrupt the communication process.

## ***4.3. Principle of Preparation***

Students can receive information as a stimulus we provide; first, we must prepare them both physically and psychologically to receive the lesson. Do not begin presenting topics if students are not ready to accept them. In connectionist theory, "readiness" is a law of learning. The essence of this law is that if each individual is ready, they will respond quickly to any stimulus, whereas if each individual is not ready, it is impossible for them to respond to every stimulus that arises.

## ***4.4. Principle of Sustainability***

The explanatory learning process should encourage students to study the subject further. Learning happens not only at that moment but also at the next time. A successful explanation occurs if, through the presentation process, it can bring students to a state of disequilibrium, thus encouraging them to seek, explore, or expand their insights through an independent learning process. The success of using explanatory strategies depends largely on the teacher's ability to speak or convey the subject.

## **5. Procedures for Implementing Explanatory Learning Strategies**

There are a few things that every teacher needs to understand when using learning strategies:

### *A) Formulation of the Goals*

Formulating goals is the first step teachers need to prepare. The goals to be achieved should be formulated as specific behavioral changes toward learning outcomes. In addition to being able to guide students in listening to the lesson material through clear goals, the effectiveness and efficiency of using this strategy will also be known.

### *B) Mastering the Subject Well*

A good mastery of the subject matter is an absolute requirement for using explanatory strategies. Excellent mastery of the material will increase the teacher's self-confidence, so the teacher will find it easier to manage the classroom, will be free to move, will dare to look at the students, and will not be afraid of student behaviors that could disrupt the flow of the learning process.

### *C) Learning the Terrain and Various Things That Could Affect the Delivery Process*

Good terrain knowledge allows teachers to anticipate various possibilities that could disrupt the process of delivering lesson material. The first thing to consider is the background of the target audience or students who will receive the learning material, for example, their basic abilities or learning experiences appropriate to the material to be given, their interests and learning styles. Secondly, the condition of the room, both outside and in terms of size, lighting, seating arrangement and the integrity of the room. The success of using explanatory strategies really depends on the teacher's ability to speak or convey the lesson material.

After understanding a few things about the use of learning strategies, an educator can follow these steps in implementing explanatory learning strategies:

#### *Preparation*

The preparation phase is about preparing students to take the course. The preparation phase is a very important step in the explanatory strategy. The success of implementing learning using explanatory strategies largely depends on the preparation steps. A few things to do in the preparation steps are:

- Offer positive suggestions and avoid negative suggestions.
- Begin by stating the goals to be achieved.
- Open the file in the student's mind.

In the preparation phase, there are several goals to be achieved while preparing:

- Inviting students to come out of a passive mental state.
- Motivate students and stimulate their interest in learning.
- Encourage and awaken students' curiosity.
- Create an open learning atmosphere and climate.

#### *Presentation*

The presentation step is the step of delivering the lesson material according to the preparations made. What the teacher should consider in this presentation is how to ensure that the lesson material is easily grasped and understood by the students. Therefore, there are a few things to consider when implementing this step:

- Use of language.
- Tone of voice.
- Make eye contact with the students.
- Use engaging jokes.

#### *Correlation*

The correlation step is the step of relating the learning material to the students' experiences or other things that will enable students to grasp the relationship in the knowledge structure they already possess. The correlation step is carried out to give meaning to the subject; this means both developing the knowledge structure they already possess and improving the quality of students' thinking abilities and motor skills.

#### *Summarizing*

Summarizing is the stage of understanding the essence of the presented course material. The conclusion step is a very important step in the teaching strategy because through the conclusion step, students will be able to understand the essence of the presentation process.

#### *Application*

The application step is a step aimed at demonstrating students' abilities after listening to the teacher's explanation. This step is very important in the explanatory learning process because, thanks to this step, the teacher can gather information about the students' mastery and understanding of the subject. Commonly used techniques in this step include, firstly, assigning homework related to the presented material, and secondly, giving tests appropriate to the presented course material.

## **5. Advantages and Disadvantages of Explanatory Learning Strategies**

There are various advantages and disadvantages to using an explanatory strategy;

### ***5.1 Advantages of the explanatory strategy***

- Teachers can control the order and scope of the learning material; teachers can know the extent to which students have mastered the presented learning material.
- If the subject to be mastered is quite comprehensive and time is limited, explanatory learning strategies are considered very effective.
- Through this strategy, students can listen to narratives about the subject and observe through demonstrations.
- This strategy can be used for large student classes.

### ***5.2 Disadvantages of explanatory strategies***

- This learning strategy is only possible for students with good listening and listening skills.
- This strategy is unlikely to accommodate individual differences in learning abilities, knowledge, interests, skills, and learning styles.
- Because it involves more lessons, this strategy makes it difficult to develop students' socialization skills.
- The success of this strategy depends on the teacher's abilities.
- Since the communication style in this strategy is one-way, the possibility of controlling students' learning abilities is limited.

## **6. Conclusion**

The explanatory learning strategy is a learning strategy that emphasizes the process of verbally transferring the material from the teacher to the students in order to enable students to learn the material in the best way. There is no learning strategy that is considered better than another. Whether a learning strategy is good or not can be understood by whether the strategy is effective in achieving the stated learning objectives. There are many things that every educator should pay attention to in the process of implementing explanatory learning strategies; Preparation, presentation, linking, concluding, and implementation. The explanatory learning model emphasizes the verbal delivery of teaching material from a tutor, educator, or teacher to students or trainees. This aims to ensure students optimally master the material. The educator plays a dominant role in the explanatory strategy, as the learning approach is teacher-oriented. From the

perspective of problem-solving skills in learning, the explanatory learning strategy is one of the most effective problem-based learning models. In the explanatory strategy, the educator writes the topic or material to be studied, outlines the learning objectives, and motivates students to learn. The educator's role is to explain and present the material both orally and in writing.

An explanatory learning strategy can be an effective option for educational institutions when they want to ensure that educational materials are presented to students in a clear, structured, and easily understandable way. However, to prevent the learning process from becoming monotonous, institutions also need to support it with interactive media and training systems to ensure that participants remain active and focused throughout the learning process.

In today's digital age, the implementation of an explanatory learning strategy will be even more optimal when supported by the right learning platform. Educational institutions can thus present educational materials more systematically, monitor learners' progress, and manage education in a more practical and measurable way. With the right learning system, competency development process of the learner can be more effective and support the future growth of the educational institution.

## REFERENCES

- Davis, J. (1976). *Teaching Strategies For The College Classroom*. Routledge New York
- Gulo W. (2002). *Teaching and Learning Strategies (Strategi Belajar Mengajar)*, Jakarta: PT Gramedia.
- Gurusinga and Sibarani (2011). *Penerapan Strategi Pembelajaran Ekspositori Untuk Meningkatkan Hasil Belajar Siswa*. Fakultas Teknik Universitas Satya Negara Indonesia, 2 (4)
- Kayalar, F. & Güler Arı, T. (2016). The views of language teachers over the strategies of brain based learning and teaching for successful classroom environment. *Proceedings of the 8th MAC 2016*.
- Kayalar, F. & Güler Arı, T. (2017). Study into the Views of Classroom Teachers Upon Interest-Based Learning in Primary Schools.. *Uluslararası Türkçe Edebiyat Kültür Dergisi* , Vol.6, No.4
- Killen, R. (1998). *Effective Teaching Strategies: Lessons from Research and Practice*. Thomson Social Science Press, 2006
- Liyusri & Situmorang, J. (2013). Learning Strategies and Learning Styles on Geography Learning Outcomes. *Jurnal Teknologi Pendidikan (JTP)*, Vol 6, No 1
- MacDonald, M. (2001). Changing values: What use are theories of language learning and teaching?. *Teaching and Teacher Education* 17(8)
- Sabri, A. (2005). *Strategi Belajar Mengajar dan Micro Teaching*. Jakarta : Quantum Teaching
- Sanjaya, W. (2011). *Development of a Clinical Method Learning Model to Improve Students' Thinking Skills in Learning IPS di SD*. Disertasi. Bandung: UPI.
- Seels, B. & Richey, R.C. (1994). Redefining the Field: A Collaborative Effort. *TechTrends: Linking Research and Practice to Improve Learning*, 39(2)

### Autism Spectrum Disorder and Teachers

Sevinç ÇIRAK KARADAĞ<sup>1</sup>

#### Introduction

Autism Spectrum Disorder (ASD) has been diagnosed with increasing frequency in recent years. This situation steadily increases the possibility that general education teachers from all disciplines will encounter individuals with ASD in their classrooms. Therefore, children with ASD are not limited only to the domain of special education teachers. This chapter examines the roles that general education teachers can play regarding students with ASD.

Teachers' levels of knowledge and skills regarding ASD are important both in terms of their direct relationships with students and their status as professionals with high potential to educate and guide society. In recent years, increasing emphasis has been placed on inclusive education, particularly inclusive education implemented by competent professionals, as it is directly associated with the sustainability of education. The proportion of individuals diagnosed with autism among people with disabilities appears to be increasing steadily (Gomez-Mari et al., 2021). Ensuring that these individuals benefit maximally from inclusive education without experiencing harm would be advantageous for all stakeholders (e.g., families, schools). However, this situation also places considerable responsibility on professionals, namely teachers, and necessitates support in terms of knowledge and skills (Able et al., 2015).

The World Health Organization (WHO) (2025) defines Autism Spectrum Disorder (ASD) as "a developmental disorder characterized by difficulties in social interaction and communication and restricted or repetitive behaviors." Individuals with Autism Spectrum Disorder (ASD) are a biologically heterogeneous population; Their mental abilities and speaking levels may differ significantly from each other. While some of them can live their lives as independent individuals, some of them may need constant help. It is usually diagnosed in childhood. However, in recent years, it has been observed that the number of autistic individuals diagnosed among adults has been increasing (Huang et al., 2020). ASD is a lifelong condition rather than temporary.

---

<sup>1</sup> Lecturer; Ege University, Faculty of Education, Department of Turkish and Social Studies Education, İzmir, Turkey, sevinc.karadag@ege.edu.tr, ORCID: 0000-0003-4731-6961

It has been observed that ASD has been diagnosed at increasing rates in recent years. According to Maenner et al. (2023), ASD is seen in one in 36 people in the USA. This figure is higher than the incidence reported in previous years. The prevalence of ASD in Europe is one percent (1/100) and above (Magán-Maganto et al., 2017). The average median prevalence worldwide is 100/10,000, and it is also less likely to be diagnosed in women than in men, approximately one quarter (Zeidan, et al., 2022).

Autism was first described by Leo Kanner (1943). Since then, as our knowledge about autism has increased, there have been major changes in the social perspective on autism and policies regarding autism. However, those with autism continue to suffer from social practices such as labeling and exclusion. In times when there was no scientific evidence for the organic origin of autism, the conceptualization of autism was based on incorrect belief systems and evaluations (Mintz, 2017). However, over time, autism has been conceptualized as a behavioral and multidimensional developmental disorder or even a disability. A better medical understanding of ASD has led to a better understanding of the behavioral, mental, and emotional symptoms seen in these individuals. In addition to medical therapies, it is recommended that they should be supported to benefit from remedial practices that aim to provide education and develop social skills and support their strengths (Mintz, 2017). Today's medical and educational approach considers ASD as a neurodiversity and advocates that customized educational approaches for these individuals should be given side by side with neurotypical ones whenever possible.

In a period when inclusive education policies are supported and individuals with ASD are becoming more prevalent, it is of significant importance that teachers have adequate autism knowledge and skills. Because the probability of having affected individuals in classes increases at all levels of education. Therefore, teacher knowledge and competencies are of great importance in providing individualized education in classrooms, solving problems that may arise between other students, individuals with ASD and others, and ensuring acceptance. Below, the effects of teachers on this issue are examined under the headings of Early Diagnosis of ASD and Teacher and ASD and Inclusion.

### **Early Diagnosis of ASD and the Teacher**

Schools have a responsibility to support their students' academic as well as general mental health and well-being (Cunningham & Suldo, 2014). In this context, teachers play an important role in observing and monitoring students' academic success as well as their physical and psychological well-being. This is

because, apart from the family, the adults with whom students spend the most time are their teachers.

Teachers occupy a highly important position in terms of early diagnosis of autism. Although ASD is usually noticed by parents and caregivers around the age of two, diagnosis may take until later ages (Drush, 2015). In this case, pre-school education and educators have important duties. A good observant teacher can detect developmental differences or delays that the family is unaware of or has difficulty accepting.

Early detection of autism is of vital importance in terms of improving social skills. Children diagnosed early make better progress in their social skills due to the opportunity to receive early help. (Gabbay-Dizdar, 2022). In particular, the usefulness of preschool and early childhood teachers in detecting overlooked differences is inevitable. Preschool and classroom teachers spend long periods of time with students, and when compared to parents, they can have the opportunity to compare children of the same age with each other and observe the differences between them. In fact, due to the opportunity to watch children interact, they may be in a good position to see students in different situations that may not occur in their home environments (Neil & Smith, 2017). Preschool teachers are also skilled at encouraging families to seek health care for their children. Another feature of preschool teachers is that they take detailed courses on child development, which makes them more skilled at catching developmental features that go wrong (Taresh et al., 2020).

In order for teachers to recognize ASD symptoms, some conditions must be present. To explain these conditions Taresh et al. (2020) presented a conceptual model (KBISSE) (See figure 1). As can be seen in the figure below, in the KBISSE model, it is stated that the teacher's ASD knowledge, beliefs, ASD identification skills, and self-efficacy perceptions are important in recognizing ASD and communicating it to the family and relevant professionals. First of all, it is necessary to have information about the causes, symptoms and treatment of autism. Lack of knowledge about recognizing autism, especially in pre-school years, may be one of the important obstacles for children with autism to access early treatment. For this reason, all teachers, especially preschool teachers, should be aware of the signs that may indicate autism, as they are the first teachers encountered in the early stages.

However, recognizing the symptoms of autism is not enough. Some personality traits of the teacher are also important. According to Taresh (2020), the absence of false beliefs/myths about autism and attitudes, feelings and skills towards children with ASD also affect the teacher's self-efficacy in recognizing autism, sharing it with the family and directing for early intervention. Taresh claimed that

teacher self-efficacy perceptions also affect the teacher's educational practices and communication skills with children.

## THE KBISSE FRAMEWORK: ELEMENTS OF AUTISM RECOGNITION

After Tareh et al, (2020)

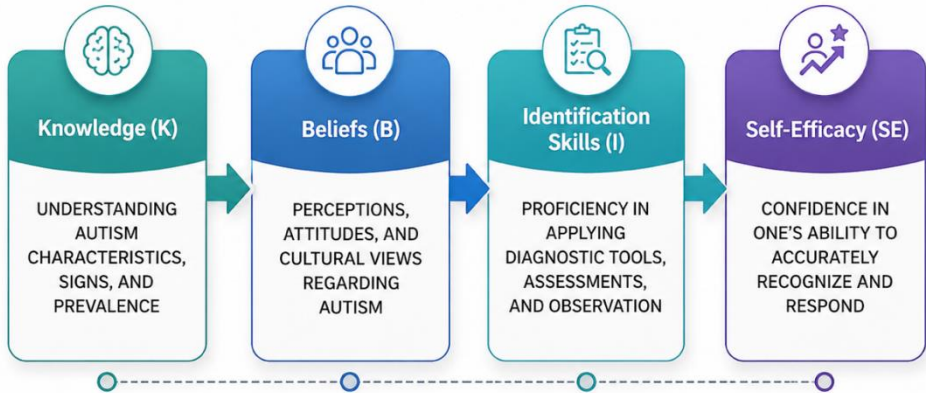


Figure 1

### Teachers and Inclusion

As the number of children with ASD increases, the incidence of students with ASD, especially those with mild symptoms and no obvious problems in their verbal communication skills and mental competence, will increase at all levels of education. The majority of children with ASD in countries such as America and Australia, and approximately half of children with ASD in Germany, attend mainstream general schools (See, Wittwer et al., 2024). This situation coincides with the desire to implement inclusive education widely all over the world.

Inclusive education is a concept about the inclusion of students with disabilities or special educational needs in general schools (UNESCO, 2009). According to UNESCO, teachers should be prepared for inclusive education practices within the framework of a rights-based and value-based education approach to combat all types of discrimination and exclusion. It is thought that educating autistic children with typical students in general education classes helps them better with cognitive and communication skills. Compared to autistic students educated in special education classes, the intellectual and communication skills of autistic students educated in general education classes were measured to be higher (White et al., 2007).

It is obvious that the increasing number of autistic children in schools will bring significant responsibilities and difficulties for teachers. The issue of whether

teachers have sufficient skills or not is one of the important debates in today's inclusive education field. States, including international organizations related to education such as UNESCO, are also looking for ways to increase the competence of teachers in terms of inclusiveness.

Just like students with other disabilities, the fact that students with ASD are physically next to each other in mainstream or general classes does not mean that they also participate in the group socially. One of the most important problems experienced by autistic children is exclusion, labeling, discrimination and bullying due to their differences. In addition, the psychological well-being of not only these children but also their families may be affected due to the negative behaviors they experience (Kerns et al., 2022). Most of the time, families feel helpless and do not know what to do. Access to institutions may be limited, so these children may also be negatively affected by this negative atmosphere within the family.

Rejection or not being included in the group is one of the most important issues today that can affect mental health and even indirectly physical health. According to social psychologists Eisenberger and Mathew Lieberman (2006), the areas activated in our brain when we are rejected are the same as those activated when we experience physical pain. After all, rejection is a distressing process. Most importantly, individuals who are not included in groups have a negative impact on their self-perceptions and self-esteem (Aronson et al., 2012). Ostracism can lower self-esteem and foster the complications caused by low self-esteem. Anxiety and depression, inability to maintain human relations and protect one's rights, and loss of academic motivation can be counted among the complications. Consequences such as not seeing oneself as worthy of good positions or not being able to fully evaluate one's potential are well-known and established consequences of low self-esteem as well.

Autistic children may be at greater risk of social exclusion due to their unique behavioral patterns than children who are not considered neurodiverse (Odom, et al., 2021). Cognitive, emotional and motivational factors unique to ASD can negatively affect autistic children academically. Since autistic features are evaluated on a spectrum, each child's mental capacity and emotional characteristics vary. When mental capacities are measured using the general ability scales available today, there are some that are very low and some that are sufficiently high. Their emotional characteristics are also prone to anxiety and stress. According to Odom et al., the fact that these children can display aggressive characteristics and even engage in self-destructive behavior may cause them to be further excluded from their peers. Due to the structural characteristics

of autistic children, their relationship and interaction styles are considered strange by others. This situation may increase their risk of exclusion.

Autistic children's relationships with their teachers may also be more negative due to the reasons mentioned above. Positive teacher-student relationships are associated with children adapting well to school and having fewer behavioral problems. In addition, positive teacher-student relationships may make it easier for autistic children to be accepted in the classroom (for a review see Bolourian et al., 2022).

For all these reasons, teachers working in mainstream schools need to have a solid knowledge of autism as well as sufficient skills to increase the level of acceptance of autistic students by other students. As stated in the requirements for the recognition and guidance of autism, teachers' knowledge of autism alone is not sufficient; this situation only constitutes an important part of the whole. Teachers' self-efficacy perceptions and attitudes towards children with autism, and even their belief that inclusive education will be beneficial to such children, are required.

Research shows that the success of inclusive education depends significantly on the teacher's attitudes towards ASD and how much they embrace inclusivity (Bolourian et al., 2022). According to Bolourian and others, although inclusivity increases the success of many students (autistic students can often be included in this), inclusivity practices do not work as expected in real life. Teachers often fall short of expectations; According to the studies examined, they do not feel prepared enough.

Wittwer et al. (2024) evaluated teachers' competencies in including autistic children in the classroom around three components. These are the teacher's autism knowledge; teacher self-efficacy regarding inclusive education; and the teacher's attitudes. Autism knowledge, attitudes towards autism, and self-efficacy in teaching autistic children constitute important themes in the early diagnosis and guidance of autistic children, as well as in the true inclusion of affected children in the classroom. Although it is similar to the model we mentioned above, we see that the perception of self-efficacy and the teacher's attitudes come to the fore in this section.

Teacher self-efficacy covers a multi-factorial situation related to issues such as teachers' ability to support and guide students, effective classroom management, and conveying the material to be taught in a way that the child can understand. The concept of self-efficacy was introduced to the literature by Albert Bandura (1977) and has been widely used and accepted as one of the basic concepts of social learning theory. The feature of the concept is that it provides the opportunity to evaluate individuals' perceptions regarding a task. The concept of

self-efficacy has received much attention in teacher research as well as in many professions. Teacher self-efficacy in the context of education, according to Skaalvik and Skaalvik (2007), includes the teacher's ability to plan, organize and convey learning material to students in a way that can achieve the goals of teaching. In the context of the education of autistic children, it is the teacher's belief that he or she can provide teaching appropriate to the educational needs of the autistic child and overcome the difficulties caused by the characteristics of autism in this process.

It is seen that teachers with high self-efficacy scores are more enthusiastic about inclusive education and feel more responsible for the learning of these students. Teachers with high self-efficacy perceptions experience less stress when it comes to including autistic students in education, they can engage themselves more in their work, and as a result, their students can achieve more educational gains. (See, Bolourrian et al., 2022; Wittwer et al., 2024).

Factors that positively and negatively affect teachers' self-efficacy in inclusive education were examined in a large-scale survey article by Peterson-Bloom and Hansson (2025). The results of this comprehensive screening can be summarized as follows.

Issues that positively affect teachers' self-efficacy in inclusive education for autism:

1. Teachers should participate in practical professional development training, and these trainings should be especially aimed at autistic students. It has been observed that such training supports teacher self-efficacy in issues such as understanding autism and adopting guidelines for the education of autistic children, supporting student participation, coping with challenging behaviors and accepting the student.
2. Although it is of the most critical importance for the teacher to participate in professional development training and for the teacher to understand autism, this is insufficient. It should be reflected in classroom practices as deeper and broader support structures. Regarding this, institutional support, involvement of administrators and especially access to specialized resources contribute to teacher self-efficacy.
3. In addition to the above, even if senior management makes policy changes, what teachers experience in practice may not be compatible with these policy changes. Therefore, broader structural and cultural changes are also factors that support teacher self-efficacy and confidence in inclusive education.

According to Peterson-Bloom and Hansson (2025), the "structural, emotional and perceptual factors" that may cause teachers' self-efficacy to be weak and

constitute a barrier to the development of self-efficacy can be summarized as follows.

1. It stands out as an important issue that teachers are inadequately trained to meet the needs of autistic students in terms of both knowledge and practice. Throughout the studies reviewed by the authors, it was stated that teachers were inadequately trained in teaching autistic students. Teachers are particularly unsure about adapting teaching to those with ASD and have reportedly had difficulty coping with challenging situations.
2. Structural and contextual barriers. These include issues such as teachers not having enough time for planning, insufficient staff and insufficient access to expert support.
3. Issues such as emotional difficulties and burnout experienced by teachers are also among the factors that weaken their sense of self-efficacy. It has been stated that this situation is especially evident in cases where institutional and peer support is low.
4. Finally, perceptions and attitudes towards the needs of autistic children have an impact on teacher self-efficacy. It has been reported that if teachers believe that the needs of children with ASD are insurmountable and cannot be changed through education due to their characteristics, their self-efficacy may be negatively affected.

Teachers can promote true social inclusion in a variety of ways. He/she can contribute to creating a more empathetic and understanding classroom environment by serving as role model. It is not difficult to predict that classmates may also behave negatively towards children, especially at a young age, when teachers themselves can be abusive. As the most powerful figure in the classroom, the teacher is expected to support a non-exclusionary style of behavior in order to be a role model for others to be inclusive.

However, it is a matter of curiosity how much teachers can help students with autism in terms of inclusion (Wittwer, 2024). It is observed that teachers prefer students with other disabilities (physically disabled, hearing impaired, speech impaired, etc.) rather than those with ASD in their classes, due to reasons such as the unique communication styles of children with autism, their intellectual characteristics, and the difficulties they experience in sitting at their desks in the classroom (Rafferty & Griffin, 2005).

## **Conclusion**

In this section, it is touched upon how general teachers from all branches (especially those working in early childhood) can be effective in addressing autism-related issues. When working with children with ASD, teachers play two

particularly important roles: contributing to the early diagnosis of autism and supporting inclusive education. These two roles require a solid knowledge and understanding of autism; how autism manifests itself physically, cognitively, emotionally and communicatively; its treatment and especially the role of education in improving developmental outcomes. In addition to these, the beliefs and attitudes of teachers and school staff towards autism and inclusive education represent another important dimension. Furthermore, another very important element is that the teacher must have sufficient skills to address the challenges associated with autism, to teach the learning material in a way that the autistic child can understand, and to facilitate social participation.

Unfortunately, it is seen that teachers often fall short of expectations regarding these desired characteristics. Gomez-Mari et al. (2021) reviewed studies from different parts of the world. The most important finding of this review study is that teachers generally do not have sufficient knowledge about autism. In a study conducted in Germany (Wittwer, 2024), it was reported that teachers possessed a moderate level of knowledge about autism and still had some misconceptions about autism. Likewise, in some studies conducted in Turkey, there are findings that teachers' awareness is not at a sufficient level (e.g., Rakap et al., 2018).

As emphasized throughout this chapter, all teachers, regardless of branch, need a solid knowledge of ASD. As a matter of fact, the teaching of courses containing Special Education subjects in the curriculum of general branch teachers in the Faculties of Education corresponds to this need. Apart from the information obtained from this type of preservice education, there are various factors that affect teachers' autism knowledge. Gomez-Mari et al. (2021), in their review of large-scaled studies worldwide, summarized these factors under six subtitles. Among those, four of them are important to us.

- The first is the experience of the teacher. Having experience working with students with ASD increases teachers' knowledge about the characteristics of ASD. There are differences in knowledge between pre-service teachers and currently working teachers due to experience with the affected children. The authors noted that in countries that understand the importance of experience, such as Korea, pre-service students are required to complete a practical training program before graduation.

- Secondly, whether teachers receive training on ASD after graduation or whether they specialize in ASD-related education makes an important difference in autism knowledge of teachers. According to the abovementioned review, the effect of this training can be observed even in inexperienced teachers who are just entering the teaching profession.

- Thirdly, the educational level of the teachers was found to be related to their knowledge of understanding the needs of those with ASD and providing them with appropriate assistance (support with time management, recognizing potential stressors, etc.). The analysis of studies conducted on this subject has shown that teachers working in primary education are more knowledgeable than secondary school and high school teachers.

- Fourthly, it was emphasized that the cultural characteristics of the countries and beliefs of people who live in those countries about health are related to the level of knowledge of teachers about ASD. For example in countries like Ethiopia, professionals demonstrated relatively lower levels of ASD knowledge due to cultural characteristics.

It is not enough for the teacher to have only knowledge of autism; he/she must be equipped with the skills to cope with and manage autism related challenges; the teacher must be genuinely willing to include autistic students in the classroom; and believe in promoting inclusive education and that autistic children can benefit from inclusive education. All these, namely knowledge, attitudes and self-efficacy beliefs, interact with each other.

Moreover, although this section focuses on the teachers, the education of children with autism requires the material resources and moral support of the family and other stakeholders of the education (school administration, counseling services and other support teachers, etc.). An equitable education requires that all students have access to rights-based education and that education is individualized according to their needs (Ravet, J. 2011; Petersson-Bloom &Hanson, 2025), and when contributing the individual well-being of all children is the primary goal, the educational institution must act in this way.

## References

- Able, H., Sreckovic, M. A., Schultz, T. R., Garwood, J. D., & Sherman, J. (2015). Views from the trenches: Teacher and student supports needed for full inclusion of students with ASD. *Teacher Education and Special Education, 38*(1), 44-57.
- Aronson, E., Wilson, T. D., & Akert, R. M. (2012). *Sosyal psikoloji*. (Çev. O. Gündüz). İstanbul: Kaknüs Yayınları.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191.
- Bolourian, Y., Losh, A., Hamsho, N., Eisenhower, A., & Blacher, J. (2022). General education teachers' perceptions of autism, inclusive practices, and relationship building strategies. *Journal of Autism and Developmental Disorders, 52*(9), 3977-3990.
- Cunningham, J. M., & Suldo, S. M. (2014). Accuracy of teachers in identifying elementary school students who report at-risk levels of anxiety and depression. *School Mental Health, 6*, 237–250.
- Drusch, S. J. (2015). *The Early Identification of Autism Spectrum Disorder in Preschool Settings*. Retrieved from Sophia, the St. Catherine University repository website: [https://sophia.stkate.edu/msw\\_papers/437](https://sophia.stkate.edu/msw_papers/437)
- Gabbay-Dizdar, N., Ilan, M., Meiri, G., Faroy, M., Michaelovski, A., Flusser, H., ... & Dinstein, I. (2022). Early diagnosis of autism in the community is associated with marked improvement in social symptoms within 1–2 years. *Autism, 26*(6), 1353-1363.
- Gómez-Mari, I., Sanz-Cervera, P., & Tarraga-Minguez, R. (2021). Teachers' knowledge regarding autism spectrum disorder (ASD): A systematic review. *Sustainability, 13*(9), 5097.
- Eisenberger, N. I., & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences, 8*(7), 294-300.
- Huang, Y., Arnold, S. R., Foley, K. R., & Trollor, J. N. (2020). Diagnosis of autism in adulthood: A scoping review. *Autism, 24*(6), 1311-1327.
- Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child, 2*(3), 217-250.
- Kerns, C. M., Lankenau, S., Shattuck, P. T., Robins, D. L., Newschaffer, C. J., & Berkowitz, S. J. (2022). Exploring potential sources of childhood trauma: A qualitative study with autistic adults and caregivers. *Autism, 26*(8), 1987-1998.
- Maenner, M. J., Warren, Z., Williams, A. R., Amoakohene, E., Bakian, A. V., Bilder, D. A., Durkin, M. S., Fitzgerald, R. T., Furnier, S. M., Hughes, M.

- M., Ladd-Acosta, C. M., McArthur, D., Pas, E. T., Salinas, A., Vehorn, A., Williams, S., Esler, A., Grzybowski, A., Hall-Lande, J., Nguyen, R. H. N., ... & Shaw, K. A. (2023). Prevalence and characteristics of autism spectrum disorder among children aged 8 years - Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2020. *MMWR Surveillance Summaries*, 72(2), 1-14. doi: 10.15585/mmwr.ss7202a1. PMID: 36952288; PMCID: PMC10042614.
- Magán-Maganto, M., Bejarano-Martín, Á., Fernández-Alvarez, C., Narzisi, A., García-Primo, P., Kawa, R., ... & Canal-Bedia, R. (2017). Early detection and intervention of ASD: A European overview. *Brain Sciences*, 7(12), 159.
- Mintz, M. (2017). Evolution in the understanding of autism spectrum disorder: Historical perspective. *The Indian Journal of Pediatrics*, 84(1), 44-52.
- Neil, L., & Smith, M. (2017). Teachers' recognition of anxiety and somatic symptoms in their pupils. *Psychology in the Schools*, 54(9), 1176-1188.
- Odom, S. L., Sam, A. M., Tomaszewski, B., & Cox, A. W. (2022). Quality of educational programs for elementary school-age students with autism. *American Journal on Intellectual and Developmental Disabilities*, 127(1), 29-41.
- Rafferty, Y., & Griffin, K. W. (2005). Benefits and risks of reverse inclusion for preschoolers with and without disabilities: Perspectives of parents and providers. *Journal of Early Intervention*, 27(3), 173-192.
- Petersson-Bloom, L., & Hansson, E. (2025). A systematic research review on teachers' self-efficacy in educating autistic students. *Autism & Developmental Language Impairments*, 10, 1-16. DOI: 10.1177/23969415251392318.
- Rakap, S., Balikci, S., & Kalkan, S. (2018). Teachers' knowledge about autism spectrum disorder: The case of Turkey. *Turkish Journal of Education*, 7(4), 169-185.
- Ravet, J. (2011). Inclusive/exclusive? Contradictory perspectives on autism and inclusion: The case for an integrative position. *International Journal of Inclusive Education*, 15(6), 667-682.
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99(3), 611-625.
- Taresh, S., Ahmad, N. A., Roslan, S., Ma'rof, A. M., & Zaid, S. (2020). Pre-school teachers' knowledge, belief, identification skills, and self-efficacy in identifying autism spectrum disorder (ASD): A conceptual framework to identify children with ASD. *Brain Sciences*, 10(3), 165.

- United Nations Educational, Scientific, and Cultural Organization (UNESCO). (2009).
- Wittwer, J., Hans, S., & Voss, T. (2024). Inclusion of autistic students in schools: Knowledge, self-efficacy, and attitude of teachers in Germany. *Autism*, 28(8), 2040-2052.
- World Health Organization (WHO). (2025). *Otizm*. <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>
- Zeidan, J., Fombonne, E., Scolah, J., Ibrahim, A., Durkin, M. S., Saxena, S., ... & Elsabbagh, M. (2022). Global prevalence of autism: A systematic review update. *Autism Research*, 15(5), 778-790