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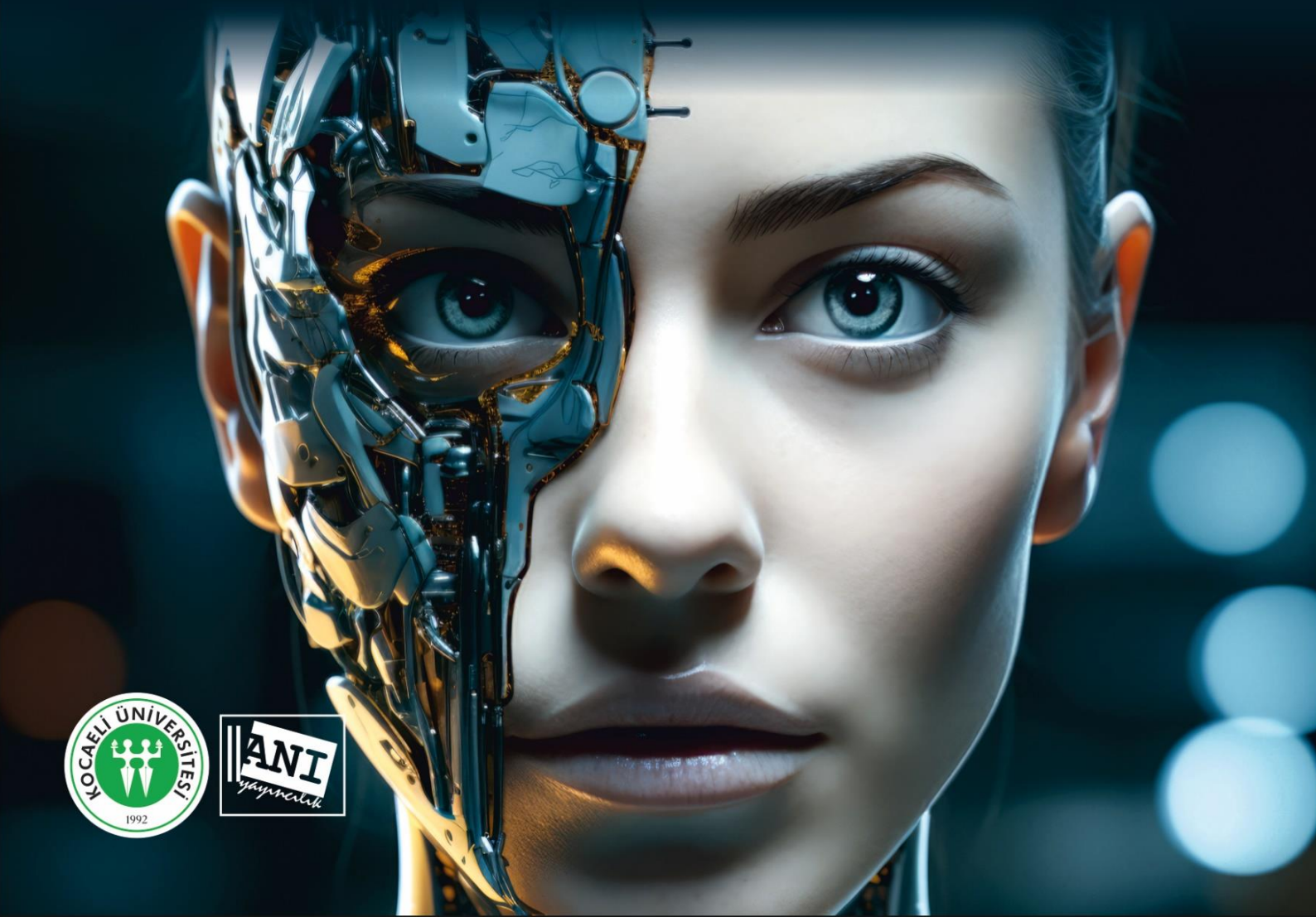

KOCAELİ ÜNİVERSİTESİ 1992
ANI yayıncılık

XI INTERNATIONAL EURASIAN

EDUCATIONAL RESEARCH CONGRESS

EJERCONGRESS 2024

CONFERENCE PROCEEDINGS

May 21-24, 2024/ Kocaeli University - Türkiye

Editor

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INTERNATIONAL EJER CONGRESS

XI. INTERNATIONAL EURASIAN EDUCATIONAL RESEARCH CONGRESS

EJERCONGRESS 2024
CONFERENCE PROCEEDINGS
May 21-24, 2024/ Kocaeli University - Turkiye
by Anı Publishing
Kızılırmak Sokak 10/A Çankaya/ Ankara - Turkiye 06680
Tel : 90 312 425 81 50 pbx
Fax : 90 312 425 81 11
www.ejercongress.org
www.ejercongress@gmail.com
e-ISBN : 978-625-97716-6-3

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Main Theme

"Designing the Future: Changing Paradigms and Transhumanism with Artificial Intelligence in Education"

Sub-Themes

- Academic freedom, autonomy, and social responsibility in education
- Artificial intelligence and educational applications
- Augmented reality applications
- Barriers to learning
- Blended learning
- Computer-assisted measurement and evaluation
- Core skill sets for students and teachers
- Design of school buildings in the future
- Designing and delivering a digital strategy
- Digital competence
- Digital parenting
- Distance Education
- Earthquake Education
- Post Earthquake Trauma Training
- Earthquake and Effective Psychosocial Intervention Methods
- Earthquake and Trauma
- The Impact of Earthquakes on School Staff
- Education and society
- Education for healthy living and healthy communities
- Education for a sustainable life
- Education in the digital age: Primary, secondary, high school, higher education, and application examples
- Educational leadership in the digital age
- Effects of regional differences on education
- Equity, Diversity, and Inclusion Related to Marginalized Groups
- Emergency Management at Schools
- Evidence-Based School Counseling Services for Refugees and Marginalized Groups
- Globalisation and Education
- Higher education
- Innovative learning designs for student success
- Instructional technologies in the digital age
- Integration of immigrants into education
- K-12 education (preschool, primary, and secondary education)
- Learning management systems
- Lifelong learning
- Machine learning
- Management information system
- Managing schools
- Measurement and evaluation of students' learning outcomes
- Metaverse
- Migration and education
- Multicultural Classroom Concerns of Educators and Parents
- New educational system after COVID-19
- New skills to live and work in new times
- New technologies in teaching and learning

- New trends in educational research
- New trends in learning and teaching methods
- New trends in research methods
- Pedagogy, educational programs, and teaching
- Politics, good governance, and leadership in the educational sector
- Program design and development
- Promoting equality, diversity, and inclusion
- Psychological counseling and guidance in education
- Quality assurance/standards and accreditation
- Research and innovations in education
- Research ethics
- Right to an education
- Sustainable Educational Goals Related to Refugees
- Teacher education in the digital age
- The Possibility of Fundamental Changes in the Curriculum
- The role of parents in education
- The skills we need to thrive in a post-COVID-19 world
- Vocational education
- Ways to overcome the digital divide

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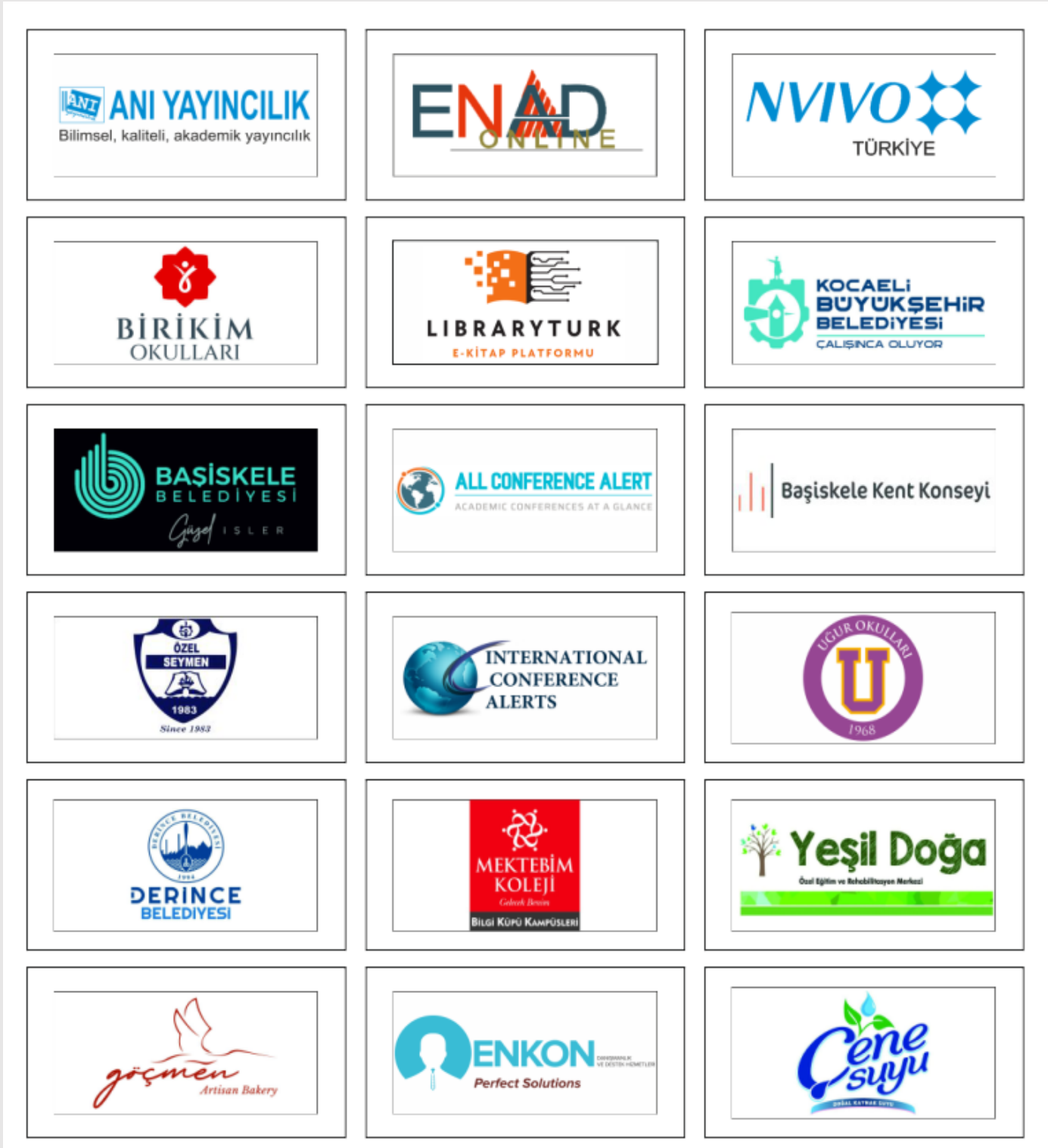

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Needs Analysis to Determine the Autonomous Learning Levels of Teacher Candidates

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Abstract

In the field of education, the concept of learner autonomy has attracted considerable attention and acceptance in recent years. The fact that teachers have an undeniable role in fostering autonomous learning skills emphasizes the importance of teacher education on this issue. Considering all the knowledge and skills that teachers should possess, teacher training institutions should not only provide an education that will develop pre-service teachers' autonomy but also equip them with the necessary techniques and strategies to develop learner autonomy. In this context, the aim of this study is to examine pre-service teachers' autonomous learning levels according to different variables. Since the current study aims to determine the autonomous learning levels of pre-service teachers, it is a descriptive survey model. The study group of the research consists of 196 pre-service teachers studying at Kocaeli University Faculty of Education, English Language Teaching, and Preschool Teaching departments. The purposive sampling method, one of the non-random sampling methods, was used to determine the sample of the study. "Demographic Information Form" and "Autonomous Learning Scale" were used as data collection tools. IBM SPSS 25.0 package program was used for data analysis. Descriptive statistics were used to examine the scores obtained from the Autonomous Learning Scale, the T-Test for Independent Samples was used to examine the differentiation of the scores obtained from the scale according to gender and the One-Factor ANOVA method was used to examine the differentiation according to grade level. According to the results of the research, it was determined that the general autonomous learning levels of pre-service teachers were above average.

[This paper was published in: "EJER Congress 2024 International Eurasian Educational Research Congress Conference Proceedings," Ani Publishing, 2024, pp. 172-176]

Keywords: Learner autonomy, preschool teaching, English language teaching, teacher education

Introduction

In the field of education, the concept of learner autonomy has received considerable attention and acceptance in recent years. Autonomy refers to students' ability to take control and responsibility for their learning processes (Chan, 2001). It is about enabling students to become independent learners who can make informed decisions, set their own goals, and choose appropriate learning strategies (Ping-ying & Jia-xiu, 2017). When learners have a sense of control over their learning, their intrinsic motivation increases; they are likely to persist with tedious academic tasks and learn to process knowledge at a deeper level (García & Pintrich, 1996).

Learner autonomy emphasizes the importance of meeting learners' innate psychological needs for autonomy, competence, and relatedness. When these needs are met, individuals are more likely to internalize extrinsic motivations and transform them into autonomous, self-regulated behaviors (Deci & Ryan, 2000). This framework suggests that promoting learner autonomy involves empowering students to control their learning process, set their own goals, monitor their progress, and evaluate their results. As stated by Benson (2011), improved learner autonomy level promotes learners' intrinsic motivation for learning. By encouraging intrinsic motivation and self-regulation, educators can help students develop the skills and mindset necessary to become autonomous and effective learners (Benson, 2003).

Zhao (2018) also expressed that teachers should be equipped with the skills and knowledge to encourage learner autonomy. Understanding principles and theories of learner autonomy such as social constructivism and zone of proximal development and establishing effective strategies to support students in setting their own learning goals and objectives are some of the necessary skills that were listed by Zhao (2018). Basri (2020) also expressed that providing choice and diversity in learning tasks and activities is another skill that teachers should have. Basri's statement (2020) is related to improving learner autonomy since it leads learners to monitor their learning and decide on the ways that they can express their competence better. Moreover, according to Reinders ve Balçıkanlı (2011), communicating with the learners effectively and providing efficient scaffolding are important skills for teachers to improve their learners' autonomy.

Regarding all the skills and knowledge that teachers should have, teacher education institutions should provide an education to improve teacher candidates' autonomy as well as equip them with the techniques and strategies required to improve learner autonomy. Teachers' autonomous learning competencies play an undeniable role in supporting students in this area. Teachers can effectively promote learner autonomy in the classroom through various strategies and practices. There are some basic ways in which teachers can promote learner autonomy (García & Pintrich, 1996). Students should be encouraged to learn on their own. Teachers can encourage students to take control of their learning process by encouraging them to set goals, monitor their progress and reflect on their learning experiences. This helps students to become more independent and responsible

for their learning (Reeve, 2006). Teachers should also provide guidance and support to students. While encouraging autonomy, teachers should also be available to offer guidance, feedback and support when needed. Building a supportive relationship with students can help them become more confident in taking risks and exploring new ways of learning. A positive learning environment provided by teachers will positively influence the level of autonomous learning of students. A classroom environment where students feel safe, respected and encouraged to express their ideas and opinions should be created. Building strong relationships with students can increase their motivation and engagement in the learning process (Diao, 2013).

To promote learner autonomy in the classroom, it is essential that teachers receive adequate training and support. Teachers should be equipped with the necessary knowledge and skills to effectively promote learner autonomy (Zhao, 2018). This includes understanding learner autonomy principles and theories such as social constructivism and zone of proximal development. Teachers should also be trained on how to create a conducive learning environment that fosters autonomy, such as providing choice and variety in learning tasks and activities. (Basri, 2020) Furthermore, teachers should be trained on how to effectively scaffold and support students in their autonomous learning journey. (Reinders & Balçıkanlı, 2011) Furthermore, teachers should be trained on effective strategies to support students in setting their own learning goals and objectives. Furthermore, teachers should be trained in strategies to scaffold and guide students toward autonomy, such as providing clear learning goals and facilitating self-assessment (Little, 1995).

Additionally, the differentiation of autonomous learning levels according to gender and grade level variables is an important issue that affects pre-service teachers' learning experiences in the education process. However, there is not enough research on this issue in the existing literature. Therefore, a comprehensive study should be conducted to understand how pre-service teachers' autonomous learning levels change depending on gender and grade level variables. By identifying the factors affecting pre-service teachers' autonomous learning skills, this research can provide guidance on how educational programs can improve these skills". To exemplify the current studies, Zachariou & Bonneville-Roussy (2024) investigated the role of group metacognition and motivational regulation strategies to promote learner autonomy. Zachariou & Bonneville-Roussy (2024) also studied the role of autonomy support from teachers in young learners' self-regulation in dyadic contexts. Another example is conducted by Kirsch & Vaiouli (2023), who investigated students' perspectives on their academic achievement during the Covid-19 pandemic considering the factors 'learner autonomy, school satisfaction and adult support'. However, further studies should be conducted to promote learner autonomy of teacher candidates. In order to achieve this goal, a needs analysis related to the level of autonomy should be conducted.

The fact that teachers have an undeniable role in autonomous learning skills highlights the importance of teacher education. In this context, the aim of the present study is to examine teacher candidates' autonomous learning levels according to different variables. This research aims to find answers to the following questions.

1. What are pre-service teachers' autonomous learning levels?

2. Do pre-service teachers' autonomous learning levels differ according to gender variables?

3. Do pre-service teachers' autonomous learning levels differ according to the grade variable?

Method

Research Model

This study is a descriptive survey design since it aims to determine the autonomous learning levels of pre-service teachers. Survey research is a quantitative research method that aims to obtain data to identify particular characteristics of a group (Büyüköztürk et al., 2008).

Participants

The study group for the research consists of 196 pre-service teachers studying in the departments of English Language Teaching and Preschool Teaching at Kocaeli University Faculty of Education. The purposive sampling method, one of the non-random sampling methods, was used to determine the sample of the study. Purposive sampling is a sampling method that meets certain characteristics determined depending on the purpose of the study or when it is aimed to be studied in more specific situations (Büyüköztürk et al., 2008). This sampling method was used since this study is a needs analysis and it is aimed to create a curriculum in certain departments with the results obtained. The descriptive properties of the participants are given in Table 1.

Table 1

Sample Descriptive Statistics

Characteristic	f	%
Gender		
Female	160	81,6
Male	36	18,4
Department		
English Language Teaching	91	46,4
Preschool Teaching	105	53,6
Grade		
1st Grade	52	26,5
2nd Grade	45	23,0
3rd Grade	99	50,5

Measurement Instruments

In this study, the "Demographic Information Form" and "Autonomous Learning Scale" were used as data collection tools.

Demographic Information Form. A demographic information form consisting of nine items was developed by the researchers to access the demographic information of the pre-service teachers. The form includes variables such as gender, grade level, department, mother-and-father education level, preschool education status, primary and high school types, and age of access to the internet.

Autonomous Learning Scale. The "Autonomous Learning Scale" (ALS) was developed by Macaskill and Taylor (2010) to measure students' learning autonomy. In this study, the version adapted into Turkish by Arslan and Yurdakul (2015) as "Özerk Öğrenme Ölçeği" was used. In the adaptation study of Arslan and Yurdakul, the internal consistency coefficient of the scale was calculated as .80. In order to prove the reliability of the data obtained from the scale, the Cronbach Alpha reliability coefficient was calculated as .77 by the researchers. This value is consistent with the internal consistency coefficient in the adaptation study and shows that the data obtained from the scale have high reliability.

Data Analysis

IBM SPSS 25.0 package program was used for data analysis. Descriptive statistics were used to examine the scores obtained from the Autonomous Learning Scale, the T-Test for Independent Samples was used to examine the differentiation of the scores obtained from the scale by gender, and the One-Factor ANOVA method was used to examine the differentiation by grade level.

Results

In this study, the autonomous learning levels of pre-service teachers and the differentiation of autonomous learning levels according to gender and grade level variables were examined.

In Table 2, descriptive statistical values related to the scores obtained from the total score of the Autonomous Learning Scale are analyzed.

Table 2

Descriptive Statistics for the Scores from the Autonomous Learning Scale

ALS	Mean	Mode	Median	Min	Max	SD	Skewness	Kurtosis
Total Score	45,27	45,00	44,41	29,00	60,00	6,11	-,132	-,132

Descriptive statistical values for the total score of the Autonomous Learning Scale were analyzed. Skewness and kurtosis coefficients vary between -1 and +1 (SC=-,132; KC=-,132). These values show that the data obtained from the scale are normally distributed (Büyüköztürk et al., 2020).

The minimum score that can be obtained from the Autonomous Learning Scale is 12 and the maximum score is 60. When the results of the research are analyzed, it is seen that the average score of the pre-service teachers is $\bar{X}$=45,27. Accordingly, it can be said that the autonomous learning levels of the pre-service teachers in the study group are above average.

Table 3

T-Test Results for Independent Samples for the Comparison of Autonomous Learning Scale Scores by Gender

ALS	Female		Male		T	df	p
	$\bar{X}$	*SD*	$\bar{X}$	*SD*			
Total Score	45,70	5,67	43,36	7,58	2,091	194	,038

Table 3 shows the differentiation of the scores obtained from the Autonomous Learning Scale according to gender. When the results were examined, it was seen that the mean scores of female pre-service teachers' autonomous learning levels ($\bar{X}$=45.70) were higher than the mean scores of male pre-service teachers ($\bar{X}$=43.36) and this difference was statistically significant (t (194)=2.091; p<0.05).

Table 4

One-Factor ANOVA Results Regarding the Comparison of Autonomous Learning Scale Scores According to Grade Level

ALS	1st Grade		2nd Garde		3rd Grade		F	p
	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*		
Total Score	43,23	6,99	45,80	4,56	46,10	6,05	4,102	,018

In Table 4, the differentiation of the total score obtained from the Autonomous Learning Scale according to the grade level was examined. Accordingly, autonomous learning levels differed significantly according to grade level (F=4,102; p<0,05). LSD post-hoc test was used to see which grade levels were significantly different. According to the results, the mean scores ($\bar{X}$=43,23) of pre-service teachers in the first grade were significantly lower than the mean scores ($\bar{X}$=45,80) of pre-service teachers in the second grade and the mean scores ($\bar{X}$=46,10) of pre-service teachers in the third grade.

Discussion

Learner autonomy (Reinders & Balçıkanlı, 2011), which plays an important role in both the learning experiences provided in formal educational settings and individual learning experiences, is a factor that affects the professional development of pre-service teachers and shapes the way they learn and teach (Chan, 2001).

The purpose of this quantitative study was to examine the autonomous learning level of preservice teachers for further research. According to the results of the study, it was determined that the general autonomous learning level of pre-service teachers was above the average.

In addition, in the analyses made according to the gender variable, it was determined that the autonomous learning

levels of female pre-service teachers were significantly higher than those of male pre-service teachers. In the literature, some studies support and do not support the current finding. Teachers' behaviors of supporting learner autonomy do not differ according to gender variable (Akbaş & Çelikkaleli, 2006; Bal, 2010; Fettahlıoğlu et al., 2011; Oğuz&Dönmez, 2017; Öztürk-Yurtseven & Özaydınlık, 2018). According to the findings obtained in terms of gender variables in another study, it was determined that there was a significant difference between pre-service teachers' learner autonomy levels and subscales and gender. It is seen that female pre-service teachers have higher levels of learner autonomy than male pre-service teachers (Kalkışım, 2023). Ataşbaş (2017) also found that learner autonomy showed a significant difference in gender in his study. Female teachers think that supporting learner autonomy is both more necessary and exhibited than male teachers (Yılmaz et al., 2017). Science teachers' behaviors in supporting learner autonomy do not differ according to gender (Akçil & Oğuz, 2015). It can be thought that female pre-service teachers have higher levels of social skills, and that they have a higher level of skills than male pre-service teachers in terms of independent learning and study habits due to their success in assertiveness and communication skills (Kalkışım, 2023). In addition, women may have to develop more responsibility and independence due to their gender roles. This may contribute to female pre-service teachers becoming more autonomous in their learning processes.

Experience and competence level are among the factors that affect pre-service teachers' levels of learner autonomy (Grant et al., 2020). In this context, practices aimed at developing learner autonomy during the teacher education of pre-service teachers shape their autonomous learning levels (Reinders & Balçıkanlı, 2011). In the current study, analyses conducted according to the grade level variable, it was found that autonomous learning levels varied depending on the grade level and these differences were found to be significant. In particular, it was determined that the mean scores of autonomous learning level of 1st-grade students were significantly lower than 2nd and 3rd-grade students. Higher-qualified and competent teachers tend to benefit from more autonomy as they receive more education and have the necessary skills and knowledge. For the aforementioned reasons, they can make informed decisions about their teaching practices. In contrast, less experienced teachers may need more knowledge, abilities, and guidance to develop their autonomy (Ryan & Deci, 2020). Kalkışım (2023) also showed that there was a significant difference between the total scale score of the preservice teachers' learner autonomy levels and the learning independence subdimension and the grade levels. It is seen that third and fourth-grade preservice teachers have higher levels of learner autonomy than second-grade preservice teachers. 2nd and 3rd-grade pre-service teachers have gained more experience and maturity in their education process. This experience and maturity may enable them to be more independent and self-sufficient in their learning processes. Moreover, as they progress through the education process, student teachers usually gain more internships and practical experience. Such hands-on experiences develop their ability to problem solve and make decisions on their own, which can increase learner autonomy. The aforementioned factors explain their high level of learner autonomy.

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