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The Role of Digital Competence in the Classroom Leadership of New Teachers in Fars Province[1]

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Abstract

The present study aimed to investigate the role of digital competence in the classroom leadership of new teachers. The study was applied in terms of purpose and used a descriptive-analytical methodology. Moreover, the data were collected according to the quantitative approach. The population included all graduates of Farhangian University in Fars Province who started teaching during the academic years from 2016 to 2021. Using Cochran's formula and the available sampling method, 238 people were selected as a statistical sample from 4500 new teachers. The data were collected using the EU Standardized Digital Competence Questionnaire (as cited in Gümüş & Kukul, 2023) and the Classroom Leadership Scale (Karabağ Köse, 2019). Using Cronbach's Alpha coefficient, the instruments' reliability was determined at 0.96 and 0.95 for the EU Standardized Digital Competence Questionnaire and the Classroom Leadership Scale, respectively. Data were analyzed using the t-test to determine the status of the research variables, Pearson's correlation coefficient for investigating simple relationships between the variables, stepwise regression analysis, and confirmatory factor analysis for determining the construct validity. The study results showed that the new teachers' digital competence was (in general) above average, and only one component (i.e., creating digital content) was evaluated at an average level. Furthermore, a significant relationship was observed between the components of digital competency and classroom leadership. Ultimately, the results of the stepwise regression indicated that new teachers' digital competence could explain around 30% of their classroom leadership.

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Introduction

The classroom setting is considered complex because of the multiple factors. However, it can be a place to teach skills and knowledge that prepare students for the future and also location students begin to learn discipline, gather information, and gain experience. Therefore, The Successful classroom is necessary for creating an effective teaching-learning system but can also foster student enthusiasm and motivation for learning and increase levels of active participation and engagement. Furthermore, literature reviews have shown that effective classrooms result from shared roles and responsibilities between teachers and students. Based on a theoretical perspective, beliefs and assumptions about these roles and responsibilities can be grouped into four primary areas of classroom practice: classroom teaching and learning, classroom behavior management, and the classroom environment – social aspects and physical space (Franklin& Harrington, 2019). In this regard, Adiyono et al. (2022) have emphasized that Maintaining order, using classroom-teaching materials effectively and efficiently, and supporting the active participation of all students require classroom leadership competency. Therefore, classroom leadership refers to all teachers' actions to create, facilitate, and maintain an effective learning environment. In other words, any form of successful teaching requires adequate and convenient managerial decisions (Wolff et al., 2021). Such choices are actualized through developing the curriculum, organizing resources and the stages of work, managing the environment to enhance monitoring of students' advancement, and predicting potential issues (Ogunode et al., 2023). In other words, classroom leadership involves all actions carried out by teachers to create an environment where social-emotional issues are conveniently taught scientifically (Khany & Ghasemi, 2021).

Most characteristics mentioned for leaders, including interaction, influencing followers having diverse traits, motivating them toward common goals, and actualizing their inner energies, are also valid for the relationship between teachers and students (Karabağ Köse, 2019). In addition, the optimal and convenient management of the classroom guarantees the effects of education, increases students' motivation for learning, minimizes students' inappropriate behaviors, and establishes positive relationships between stakeholders in education, including teachers, students, and parents (Umar & Ko, 2022). For many decades, the goal of classroom leadership has been to create a secure, supportive, and disciplined environment to optimize opportunities for learning and social, emotional, and moral growth. Although the goal still holds and has yet to change, the rapid development of digital technologies across all levels of education has made it necessary to rethink the strategies and instruments for achieving that goal (Johler et al., 2022).

Today's computers and other technologies are not only providing new opportunities for effective classroom leadership but also questioning the traditional methods of teaching and the internalized cultures they adopt. This has created new problems and challenges; therefore, new teachers consider classroom leadership a significant concern. (Lorensius et al., 2022). Cabero Almenara & Barroso Osuna (2018) argued that the technology incorporated

into education was an indicator that determined the rate of development and evolution in educational models; indeed, to achieve innovation and placing students in various situations, making them perform various activities and offering them diverse educational experiences can be an influential factor in learning. For the same reason, it conveniently incorporates information and communication technologies (ICT) in educational institutions (schools), and a society where technology plays a significant role seems necessary. Thus, educational technologies have brought about desirable outcomes in educational processes and have made academic staff and teachers attain optimal knowledge, skills, and attitudes to effectively implement the above forms of innovation and satisfactorily respond to their student's needs in the digital age. As a result, modern education depends to a great extent on teachers' professional skills and educational competence (cited in Pozo Sánchez et al., 2020). Thus, teachers must be equipped with digital competence to achieve effectiveness and quality in their daily educational activities and processes (Instefjord & Munthe, 2017). Therefore, it can be concluded that digital competence is necessary for a society founded on highly intertwined forms of technology. As a result, teachers' digital competency is increasingly attracting the attention of several organizations, researchers, and educators responsible for training future citizens who must be equipped with that skill (Mercader & Gairin, 2021). In addition, teachers with digital competence see and perceive technology as a concept that far exceeds a set of programs, software, and hardware and understand how digital culture can influence their routine roles and performance at the schools and society of the 21st century (Johler et al., 2022).

Nevertheless, teachers need to be equipped with a certain level of digital competence to know how and why such competence can be effective in classroom management and leadership and their capabilities in facilitating learning-teaching processes during the use of ICT (Larson et al., 2020; Moradi & Keshmiri, 2021). In addition to teachers, educational staff should go beyond academic competence and be equipped with technological competence (Nganji, 2018). Due to the significance of the matter, teachers' ICT skills and their attainment of digital competence can make up a significant portion of teacher education programs (Ilomäki et al., 2016). Thus, incorporating them in in-service courses and teacher education curricula, most notably at Farhangian University, seems essential. The goal is not just to get familiar with and implement such competence but to create procedures that guarantee graduates' effective use in their teaching-learning processes and classroom leadership. Teachers' empowerment with technology has always paid attention to specialists, managers, and researchers due to creating a dynamic environment and the rapid growth of modern technologies. However, much less consideration has been paid to new teachers, who are believed to have recently ended their academic studies and are equipped with the most up-to-date knowledge. In this manner, they are left alone in the turbulent environment of education, and everybody expects them to have the best performance (Sadeghi et al., 2021). On the other hand, new teachers' convenient performance in learning-teaching does not merely rely on university and theoretical courses. Solving the most

remarkable problem (i.e., the gap between theory and practice) requires attending to other necessary competencies and capabilities in the digital age, particularly regarding new teachers' digital competence and classroom leadership.

Moreover, after the spread of the COVID-19 pandemic and the emergence of the need to move toward modern teaching-learning approaches across the country's schools and change teaching models, the need to pay attention to teachers' digital competence has become more highlighted than ever. However, attention to such competencies and capabilities is vital in a technology-based society that perpetually evolves. Literature reviews have shown that various factors, including teachers' self-esteem, language skills, intercultural qualifications, emotional intelligence, psychological support, learners' fulfilment, job satisfaction, authentic leadership, and self-efficacy, can affect classroom leadership (Akman, 2020; Wang, 2023; Khany, 2019; Costa et al., 2018; Abboud, 2019; Saeed & Ali, 2019; Wang, 2019; Bay, 2020; Kavrayici, 2021). Furthermore, due to the broader use of transformative technologies in the teaching and learning system, more research needs to be conducted on teachers' digital competencies and ability to use new technologies in classroom leadership. The research literature review indicates that digital and information and communication technology literacy have received some attention. However, more focus should be given to the importance and impact of teachers' digital competence on classroom leadership. Therefore, the current study was conducted to investigate the critical role of digital competence in the classroom leadership of new teachers in the educational system.

literature review

The concept of competence and the selection of capable people for critical positions are not new and have a long history (Bartolomé et al., 2022). However, the modern use of the term in organizations and the scientific views toward it in Western countries emerged in the mid-20th century through the efforts of David McClelland (1970), a distinguished psychologist at Harvard University. McClelland assigned high credit to the concept of competence by incorporating it into the literature on human resources. On the other hand, investigations show that the Competencies Movement began in education. The main reason for its emergence was the lack of connection between what people learned during formal education and the contingencies of the labor market (Núñez-Canal et al., 2022).

Moreover, there are diverse definitions of competence. For instance, according to the European Commission et al. (2019), competence refers to a set of concepts and facts (i.e., knowledge), skills (e.g., skills during processes), and attitudes (e.g., inclinations and ways of thinking about how to perform procedures) that can lead to a better performance in one's job or particular situations. Nowadays, the use of ICT in education is an indispensable necessity; therefore, teachers' digital competence is essential for improving classroom leadership (Bugrova et al., 2022). Because technological, cultural, and social outlooks constantly change, there are several definitions of digital literacy and competence, so achieving a unitary description of this concept is problematic (Falloon, 2020). Taking a look at the

literature on the topic shows that digital literacy and digital competence are the same. However, most of the studies in the field have used the two terms interchangeably. Indeed, digital literacy is the first step toward digital competence. The term "digital literacy" was first used around 1997 by Paul Gilster, who defined it as a set of skills to access the Internet, search, manage, and revise digital information. Digital literacy combines computer literacy, information literacy, and media literacy. However, digital literacy often points to the skills necessary for individuals living in modern societies (cited in Zhao et al., 2021). The concept of digital competence was first used in 2006, and after an update proposed by the European Commission, Directorate-General for Education, Youth, Sport, and Culture, as defined in the following manner: "digital competence includes the secure, critical, and responsible use of digital technologies to interact, learn at workplaces, and participate across society." The competence includes information and data literacy, communication and collaboration (interaction through digital media), creating digital content, security (including digital welfare and the competence relevant to cyber-security), and problem-solving in a digital environment. Lázaro et al. (2018) defined digital competence as knowledge, skill, and capability that equips teachers with a critical, secure, and pedagogical view during technology-based learning. It is one of the eight essential skills for lifetime learning that any citizen needs to develop by the end of primary schooling.

Thus, teachers are among the main factors responsible for developing digital competence in future generations, making attaining a high level of digital competence in modern society essential (Rodríguez-García et al., 2018). Consequently, various institutions and associations have proposed diverse competence frameworks at organizational and international levels to achieve digital competence. For instance, out of the frameworks proposed by various authors, the following can be considered among the most eclectic ones (Cabero-Almenara et al., 2020):

- Digital Competence Framework for Citizens (DigComp)
- Digital Competence of Educators (DigCompEdu)
- International Society for Technology in Education (ISTE)
- UNESCO's Framework of ICT Competence for Teachers
- National Agency for Educational Technology and Teacher Development (INTEF, 2017)
- The British Digital Learning Framework
- ICT Skills for the Professional Development of Teachers at the Columbian Ministry of National Education
- ICT Competence and Standards for the Teaching Profession at the Chilean Ministry of Education

Faced with developments in education, Spain's Ministry of Education, Culture, and Sports has standardized digital competence through the National Institute for Educational Technology and Teachers' Development as a public institution responsible for innovation and the education of teachers' professional abilities. This is part of a project in which the EU has developed its framework and has so far been implemented for different purposes, especially in employment, education, and lifelong learning. This framework is proposed in his five areas

and 21 mandates below (European Commission et al., 2019):

1) The information and data literacy competence: browsing, searching, and filtering out data, information, and digital content; evaluating data, information, and digital content; managing data, information, and digital content

2) communication and collaboration in a digital environment: interacting through digital technologies, sharing something via digital technologies, participating with citizens through digital technologies, collaborating via digital technologies, the cyberspace (Internet) etiquette, digital identity management

3) The digital content creation: protecting equipment and hardware, protecting personal data and privacy, protecting health and welfare, protecting the environment

4) safety in the digital environment: Personal protection and well-being, data protection, digital identity protection, security measures, safe and sustainable use.

5) The problem-solving in a digital environment: removing technical issues, detecting needs and offering technological responses, using digital technologies creatively, detecting gaps – distance – between the existing condition and the desired one in terms of digital competence

Finally, as noted before, the literature review shows that although digital and ICT skills and competencies are effective in learning effectiveness and classroom leadership, very few studies have examined the correlation between these variables in the education context. As mentioned below Some of the most important and relevant ones at the national and international levels are mentioned below. For example, the research of Nejat & Khosravipour (2022) noted that the insufficient use of technology by teachers in the teaching and learning process reduces teachers' learning effectiveness and productivity. In addition, the researchers stated that although teachers' digital competence is critical, we face many challenges in using a model or framework that fits the country's local conditions. In this regard, Soheili et al. (2021) concluded that teachers' attitude toward technology and interest in being equipped with related competencies is one of the most important reasons for teachers' acceptance of technology in education. Because it is only possible to create any innovation and educational transformation with the support and acceptance of teachers, and teachers with digital competence motivate students to increase their participation in the teaching and learning process. Likewise, based on research results from Ebrahimi(2022); the existence of digital competencies in teachers not only allows them to prepare and present appropriate educational content by combining pedagogy and technology using various approaches but also causes them to have a more realistic understanding of the achievement of students' learning outcomes. Thus, they can change their classroom leadership model according to students' needs. Zare SheykhKolaie & Javadipour (2023) found that teachers' perception of digital competence in the post-corona era includes 12 components (digital education strategies, teaching and learning goals in the digital environment, digital education infrastructure, collaboration with stakeholders, expansion of technological communication, influence Spirituality of teachers in the digital environment is the digitalization of behaviour, orientation towards digitalization, digital

management system, information skills, content creation skills and using digital tools). Their research findings suggest that teachers' evolving role requires innovative teaching methods, which have become crucial to classroom preparation and instruction. According to their research findings, the transformation in the role of teachers has led to a greater emphasis on adopting new teaching methods, thereby making it a crucial prerequisite for teachers to be well-prepared before entering the classroom.

Nguyen et al. (2022) discovered that teachers used technologies, content, and intelligent learning guidelines based on learners' characteristics to develop an enjoyable learning environment. Creating this environment can increase knowledge and thinking skills, organize learning activities, eliminate problematic situations, increase motivation, and develop and assess students' learning. In addition, the findings of Amjad et al. (2021) showed that using ICT was effective in classroom leadership. On the other hand, Moltudal (2021) found that a complicated relationship existed between digital competence and classroom leadership, which was influenced by teachers' professional and knowledge-based perceptions much beyond technology. Moreover, it was shown that the obstacles and opportunities faced by primary and high school teachers in technology-rich educational environments were not limited to technology. However, it addressed teachers' perceptions of the width of knowledge and flexibility required to manage and teach comfortable and highly complex learning environments. Cho et al. (2020) believe schools were introduced into the digital age. Thus, along with other developments in that age, the role of technology in classroom leadership and school discipline became more highlighted, and teachers and students began to perceive that importance. In the same vein, the findings of Moltudal et al. (2019) showed that various levels of digital competence among teachers led to diverse professional perceptions and classroom methods. Teachers' professional digital competence and the ability to lead a classroom in a technology-incorporated environment were intertwined.

Moreover, Moltudal et al. (2019), Krumsvik et al. (2016), & Bolick & Bartels (2015) stated that teachers with inadequate digital competence would become worried during the introduction and implementation of digital technologies and feared that they might lose control over the class. Indeed, some teachers were anxious about threats to their authority and issues in their classroom leadership.

On the other hand, Enayati et al. (2016) emphasized that using educational technologies managed classrooms effectively to facilitate learning and improve the performance of multigrade schools. Thus, as mentioned before, studies on the relationship between digital competence and classroom leadership still need to be completed. As a result, due to the topic's significance and as a way of bridging the gap in the field, the present study aimed to investigate the role of digital competence in the classroom leadership of new teachers in Fars Province. In this regard, the following purposes were developed:

1. Investigating the existing condition of digital competence and classroom leadership among new teachers in Fars Province

2. Investigating the relationship between the components of digital competence and classroom leadership among new teachers in Fars Province

3. predicting classroom leadership based on the components of digital competence among new teachers in Fars Province

As is evident in Figure 1, the Initial Model of EU Digital Competence (2019) was used to evaluate digital competence, and Karabağ Köse's (2019) model was implemented to evaluate classroom leadership. On this basis, the conceptual model of the study was illustrated as follows (Figure 1):

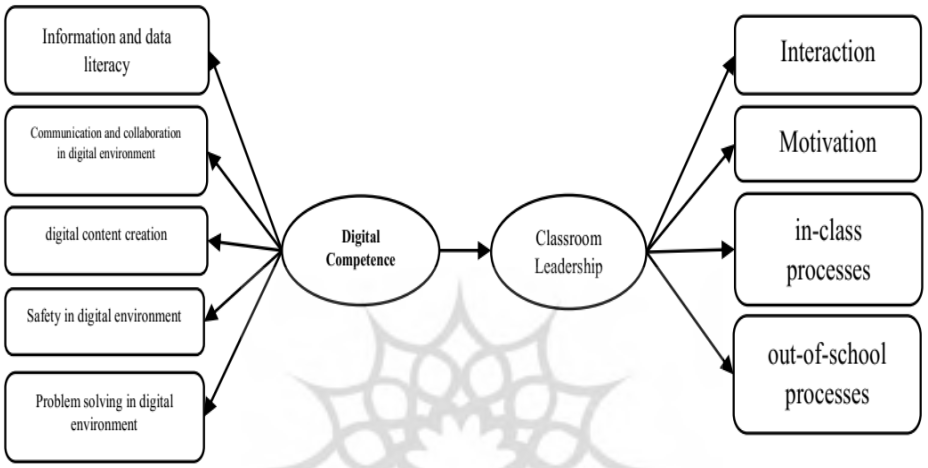

Figure 1. Conceptual Research Model

Methodology

This study examines the role of digital competence in the classroom leadership of new teachers. Data were collected using the quantitative descriptive approach to meet the research objectives. This method can be a good study technique for describing and analyzing the phenomenon by gathering the necessary data and examining the relationships between the variables. The study population included all the graduates of the Farhangian University of Fars province who started teaching during the academic years from 2016 to 2021. Using Cochran's formula and the available sampling method, 238 people were selected as a statistical sample from 4500 new teachers. Two types of questionnaires were used for data collection, including the five-point Likert scale, which was entirely consistent with the research model and research component dimensions. Data-gathering surveys were as follows:

1) The standard questionnaire was used to evaluate new teachers' digital competence. The European Commission designed (Ferrari, 2013) and standardized this questionnaire based on a comprehensive framework (Gümüş & Kukul, 2023). The questionnaire consists of 21 items and five components, including; information and data literacy, communication and collaboration in the digital environment, digital content

creation, safety, and problem-solving in the digital environment.

2) A questionnaire adapted from Karabağ Köse (2019) was used to investigate the classroom leadership of new teachers. This questionnaire includes 25 items and four components: Interaction, motivation, in-class, and out-of-school processes.

Data were analyzed using SPSS Statistics version 24.0 and LISREL version 8.8, and each component's normality of distribution was checked using the Kolmogorov–Smirnov test. Also, the correlation matrix of the variables was used to examine the correlation between the variables, and finally, the confirmatory factor analysis was used to test the research hypotheses. For validation of the questionnaires, content and construct validity methods were employed. For content validity, the views of seven experts were used through the content validity index (CVI). Experts classified the items as 1 for "irrelevant," 2 for "relatively relevant," 3 for "relevant," and 4 for "completely relevant." After the expert feedback was obtained, the CVI was calculated at 0.85, indicating the appropriateness of the questionnaire items. In addition, as shown in Table 1-confirmatory factor analysis was used for construct validity. The results suggest that the proposed model is appropriate and that the sample data supports the proposed model.

Table 1- confirmatory factor analysis (CFA) fit indices of the initial questionnaires

Questionnaires	X^2/df	RMSEA	RMR	NFI	NNFI	CFI	IFI	RFI	GFI	AGFI
digital competence	2.42	.069	.054	.97	.98	.98	.98	.97	.86	.82
classroom leadership	1.91	.055	.050	.97	.98	.98	.98	.96	.91	.88

The reliability of the questionnaires was determined and confirmed by Cronbach's alpha coefficient. As seen in Table 2, Cronbach's alpha for the digital competence questionnaire is (α=0.96) and for the classroom leadership questionnaire (α=0.95).

Table 2. Cronbach's alpha coefficient

Reliability Statistics

Variables	Cronbach's Alpha	N of Items
digital competence	.96	21
classroom leadership	.95	25

Finding

In the present study, the demographic data on the respondents showed that 16.8 percent were female and 83.2 percent were male. Regarding the level of education, 66% had a bachelor's, 32.3%

had a master's degree, and 1.7% had a Ph.D. degree. The average age of the respondents to the questionnaires is about 28 years. The minimum age is 23 years, and the maximum is 38 years. Furthermore, analysis of the normality of the variables by the Kolmogorov-Smirnov test showed that digital competence and classroom leadership had a normal distribution.

The T-test has been used to investigate the current state of digital competence and classroom leadership of new teachers. The results of Table 3 show that the current state of digital competence of new teachers (in general) and the components of information and data literacy, communication and collaboration, safety, and problem-solving in the digital environment were above the average level. At the same time, the component of digital content creation is at an average level. It should be noted that the current state of classroom leadership (in general) and its components were also above average.

Table 3: The current state of digital competence and classroom leadership of new teachers and its components with a theoretical average of "3"

One-Sample Test

	Test Value = 3					
	t	Sig	Mean Difference	Mean	Std. Deviation	Result
Information & data literacy	13.362	.000	.74370	3.74	0.85	above average
Communication & collaboration in a digital environment	15.717	.000	.92332	3.92	0.90	above average
digital content creation	-.938	.349	-.06182	2.93	1.01	average level
Safety in a digital environment	5.946	.000	.39832	3.39	1.03	above average
Problem-solving in a digital environment	5.934	.000	.39244	3.39	1.02	above average
Total (digital competence)	7.462	.000	.40756	3.40	0.84	above average
Interaction	45.683	.000	1.44468	4.44	0.48	above average
Motivation	37.649	.000	1.37255	4.37	0.56	above average
out-of-school processes	20.315	.000	.98845	3.98	0.75	above average
in-class processes	35.982	.000	1.33824	4.33	0.57	above average
Total (classroom leadership)	42.094	.000	1.30363	4.30	0.47	above average

A correlation matrix of the variables was used to investigate the relationship between digital competence and its components in classroom leadership. As Table 4 shows, there is a positive and significant correlation between digital competence in general and its components with classroom leadership (α=0.01). Also, among the components of digital competence, information and data literacy (sig=0.000; r=0.57) and then the components of communication and collaboration in the digital environment (sig=0.000; r=0.39) and creation of Digital content (sig=0.000; r=0.39) had the highest correlation with classroom leadership.

Table 4. Correlation Matrix Between Research Variables

Correlations

Variables		Information & data literacy	Communication & collaboration in a digital environment	digital content creation	Safety in a digital environment	Problem-solving in a digital environment	digital competence
Information & data literacy	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	238					
Communication & collaboration in Digital Environment	Pearson Correlation		1				
	Sig. (2-tailed)						
	N		238				
digital content creation	Pearson Correlation			1			
	Sig. (2-tailed)						
	N			238			
Safety in a digital environment	Pearson Correlation				1		
	Sig. (2-tailed)						
	N				238		
Problem-solving in a digital environment	Pearson Correlation					1	
	Sig. (2-tailed)						
	N					238	
digital competence	Pearson Correlation						1
	Sig. (2-tailed)						
	N						238
classroom leadership	Pearson Correlation	.571**	.390**	.399**	.349**	.311**	.456**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	238	238	238	238	238	238

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

To ensure the relationships between the components and test the validation of conceptual model fit, the goodness-of-fit indexes have been used, such as freedom for X-ray ratio ($\chi 2$/DF), standardized root mean residual (SRMR), Adjusted Goodness-of-Fit Index (AGFI), and Goodness-of-Fit Index (GFI), the root mean squared error of approximation (RMSEA), the normed fit index (NFI), non-normed fit index (NNFI). The results indicate that the model has a relatively good fit for the data (Table 5 and Figure 2).

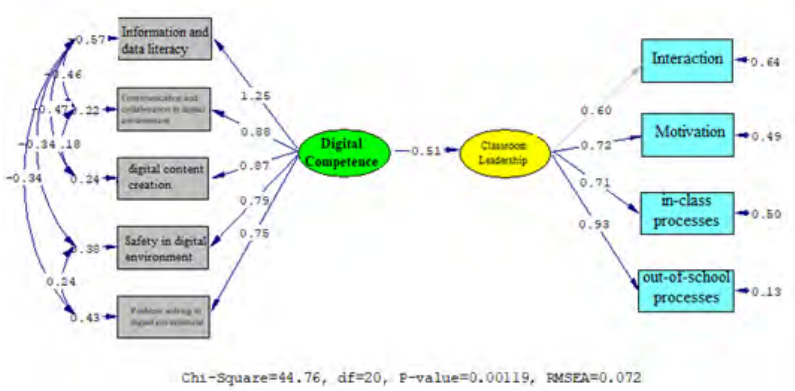

Figure 2. The experimental model of research based on standard coefficients

Table 5. The goodness-of-fit measure of the research model

Fit index	χ2/df	RMSA	GFI	AGI	RMR	IFI	NNFI	NFI
Domain	1-5	<0.08	>0.9	>0.9	<0.05	0 -1	>0.9	>0.9
Calculated	2.23	.072	.96	0.91	0.032	0.99	0.98	0.98

The t-value was used to determine the significance of the relationships between the variables. Since the significance has been checked at 0.05, there is no significant relationship if the values obtained with the t-value test are below +1.96 .On the other hand, the t-test value calculated between digital competence and classroom leadership (6.52) was significant at a 0.05 level. As a result, digital competence positively and significantly impacts classroom leadership, with a path coefficient of β=0.51(Figure 3) .

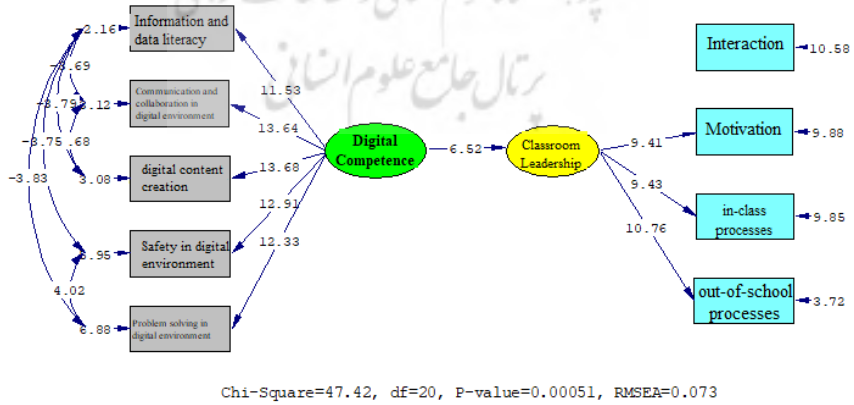

Figure 3. The experimental model of research based on T values

Finally, in order to explain classroom leadership based on the components of new teachers' digital competence, multiple regression (in a step-by-step method) has been used.

Table 6: Results of step-by-step regression analysis of classroom leadership based on digital competence components

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.571	.326	.323	.39310

Table 6 shows that the value obtained from the multiple correlations between digital competence components and classroom leadership (R=0.57) indicates a correlation between classroom leadership and the linear combination of digital competence components. Also, the values obtained (sig=0.000; F=114.10) indicate that digital competence can predict classroom leadership.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	3.114	.114		27.270	.000
	Information & data literacy	.318	.030	.571	10.682	.000

Table 7: Stepwise regression results

As Table 7 shows, among the components of digital competence, information and data literacy with values (sig=0.000; β=0.57) can predict classroom leadership. Also, the regression model's coefficient shows that the information and data literacy component significantly affects classroom leadership. Accordingly, the equation for predicting classroom leadership based on the components of digital competencies can be written as follows:

Classroom leadership = 0.57 (information and data literacy) + random erorr term

Discussion and conclusion

Although developments in ICT and the use of the Internet have brought about unprecedented changes in education and have offered notable benefits to society, some challenges have arisen due to insufficient information and knowledge

regarding individuals' privacy and information security. Thus, in an educational setting, not only is it essential for teachers to identify the problems and risks associated with access to new technology, but also to raise awareness and use strategies to prevent their possible negative consequences is also essential. Research shows that gaining confidence and creating a positive attitude towards a digital environment in an educational context requires teachers to be prepared with digital knowledge (content, science, and the art of learning and teaching), skills (social and technical), and attitudes, especially in security-related cases in such environments. In other words, modern teachers responsible for training future citizens should be equipped with digital competence. Furthermore, they should effectively lead and manage their classrooms by conveniently implementing such competence during the learning-teaching process. The success of teachers in classroom management plays a significant role in the fulfilment of learning, growth, and the development of learners' academic innovation and cheerfulness. As a result, due to the significance and necessity of classroom leadership in students' academic success (as the country's future assets), the present study attempted to investigate the role of new teachers' digital competence in their classroom leadership.

The study's findings showed that, in general, the new teachers' existing condition in terms of digital competence and some of its components was above average. However, only one component (i.e., creating digital content) was evaluated at an average level. This is because new teachers can utilize convenient instruments to search, evaluate, select, and save information, data, and digital content and use them in due time to increase the effectiveness of their teaching. On the other hand, they can establish communications via digital technologies and share their information with the main stakeholders involved in the education system using convenient instruments. In this regard, it should be noted that new teachers are not only equipped primarily with the skills to protect their information in the digital environment but also with the skills to deal with problems related to the digital environment. Technology and identify the needs and environments required for scanning, provisioning, and tuning. Be suitable. Creative solutions and ultimately identify gaps in their digital skills. To explain this result, the average age of new teachers (28 years old) can be considered a factor affecting their awareness and interest in implementing digital technology. In other words, for reasons like the more frequent use of the web, computer, and email and their presence in social media, new teachers can use modern technologies faster and within a shorter time.

Moreover, they can upgrade and enhance their competencies in line with technological advancements in the 4th Industrial Revolution. This result was in line with the findings of Baseri Toroghi (2013), Moghaddaszadeh et al. (2016), Aküzüm & Özdemir Gültekin (2017), Krumsvik et al. (2016), Pozo Sánchez et al. (2020), & Geeraerts et al. (2018). For instance, the findings of Krumsvik et al. (2016) showed that using social media and a command of modern technologies increased teachers' digital competence. Similarly, Pozo Sánchez et al. (2020) stated that teachers' digital competence had a significant relationship with their education and inclination toward

permanent learning. A negative relationship was observed between digital competence and teachers' ages. In other words, when teachers' age increased, they tended to be less interested in attaining and improving their ICT skills.

On the other hand, in general, new teachers appear to be readier, more inclined, and more motivated to combine technology with pedagogy (Geeraerts et al., 2018). On the other hand, the emergence of the COVID-19 pandemic, the necessity of using modern technologies in teaching and changing learning approaches, and reduced resistance to implementing teaching-learning processes in electronic environments have increased teachers' digital awareness, knowledge, capabilities, and skills. (Sayadi & Soleymani, 2020). In other words, the emergence and expansion of the COVID-19 pandemic made improving teachers' digital competence more apparent. Thus, Zancajo et al. (2022) argued that the above crisis revealed the necessity of equipping teachers with digital skills to enhance learning effectiveness in an electronic environment. In other words, teachers believe in the need to use technology in all processes relevant to classroom management and consider its appropriate implementation as one of the most notable factors in improving learning outcomes and enhancing their professional performance.

On the other hand, the present study's findings showed that the investigated new teachers were above average regarding classroom leadership. New teachers could motivate their students by encouraging them to set big and achievable goals, planning activities to support them outside of school in the form of extracurricular social activities, participating in class-related decisions, and presenting content appropriate to the needs of their students based on modern technologies. In addition, new teachers behaved respectfully and fairly and welcomed their students' criticism and suggestions in a trusting manner. To explain the above findings by referring to some researchers, most new teachers, particularly those in their first years of teaching, are more enthusiastic about teaching. Thus, they are more likely to manage and lead their classes conveniently. In this regard, Momeni Mahmoei & Talebi's (2022) findings showed a significant relationship between classroom management skills and teaching enthusiasm.

Moreover, some scholars have stated that one of the most important reasons for new teachers' capability in managing their classes is their command of specialized knowledge relevant to the practical approaches and methods of steering a classroom (Mirarab Razi et al., 2019). Research has shown that in recent years, most new teachers (especially graduates from higher education institutions managed by the Ministry of Education) must take and pass various courses on classroom management and styles and modern teaching-learning approaches. Thus, the above community is expected to be equipped with sufficient knowledge to manage a classroom conveniently.

Though analyzing the findings concerning the relationship between digital competence (in general) and it is components and classroom leadership indicated a significant correlation, information, and data literacy had the most significant correlation with classroom leadership. In other words, increasing skills in searching, evaluating,

selecting, and managing data, information, and digital content enabled new teachers to manage and lead their classes more effectively. This result was in line with the findings of Nguyen et al. (2022), Amjad et al. (2021), Cho et al. (2020), Moltudal et al. (2019), & Enayati et al. (2016). For instance, Nguyen et al. (2022) argued that utilizing digital technologies during teaching increased participation and interaction between learners, teachers, and peers. In addition, Enayati et al. (2016) also emphasized that using technology as an effective method of classroom management facilitated the learning process and improved teachers' performance, particularly in multigrade classes. In other words, digital competence was not just effective in the manner of teaching but in the professional success of new teachers. Ultimately, the multiple regression analysis was utilized to explain classroom leadership according to the components of digital competence. The results showed that information and data literacy could predict classroom leadership out of the components of digital competence. In line with this finding, Moghaddaszadeh et al. (2016) showed that teachers who were equipped with information literacy and updated their knowledge permanently could increase the effectiveness and efficiency of their classrooms by implementing modern educational strategies. Furthermore, such teachers had adequate autonomy in doing their chores. As a result, they could solve scientific and professional issues across all teaching and classroom management areas by themselves based on their skills and receive timely feedback in their workplaces.

Based on the results of the present study and as a way of maintaining and perpetually increasing the quality of classroom leadership among new teachers, some practical suggestions are offered below. In addition, the top-ranking managers and policymakers in the Farhangian University of Fars Province can consider the following items for planning and policymaking based on data and information.

Practical suggestions

1. The study's findings indicated that the teachers ranked lower in digital content creation than other digital competence components. Therefore, actions must be taken to increase the skills of new teachers in creating multimedia content. For example, improve the existing content according to the needs of the learners through the use of digital tools and mechanisms such as the organization of competence-based courses, and the learners motivate them by offering them material and intangible bonuses to increase their attention, inclination, and ability.

2. The skill of protecting security and intellectual property rights makes up another component of new teachers' digital competence, which needs special attention. By designing mechanisms, particularly in the form of in-service courses, educational institutions need to increase new teachers' knowledge and attitudes concerning the use of modern technologies, the positive and negative impacts of digital technologies in preserving the health of one's body and soul, and the benefits and drawbacks of access to the Internet. Moreover, their skills in protecting information, suitable tools to protect their privacy and professional identity in a digital environment, and convenient strategies to perceive risks and threats and respond effectively must be improved.

3. Increasing capabilities relevant to communication and collaboration in a digital environment is another consideration worthy of attention. For example, implementing digital technologies as easily accessible sources of supplementary learning, using such technologies to maintain communication with learners and other stakeholders to facilitate administrative and educational matters, performing procedures and even organizing some events, effectively utilizing technological instruments to offer feedback to learners and their parents about their progress and the relevant issues and problems, offering opportunities to maintain adequate and multilateral instructor-learner and learner-learner communications, on the one hand, and creating an environment for learners to express their views and ask questions through digital technologies, on the other hand, establishing learner-centered groups to exchange information by making purposeful use of social networks (e.g., WhatsApp and Telegram) are some strategies and activities that an educational institution can perform to increase collaboration and communication in a digital environment.

4. The analysis of the findings shows that information and data literacy have the most relationship with classroom leadership. Therefore, new teachers can increase and update skills such as; using advanced search strategies to find reliable information, increasing the skill of evaluating the credibility of information, using a wide range of suitable criteria, having the ability to store information in an orderly and usable manner, using cloud services (through Google Drive, Sky Drive.), and the ability to use a wide range of online tools (such as email, Skype, social networks, Etc.) to take more serious steps towards lifelong learning and be more successful, especially in classroom leadership.

5. Considering that according to the results of the present study, the status of out-of-school processes is lower than other components of classroom leadership. Therefore, the policymaking of the educational system should design appropriate mechanisms to reinforce the importance and necessity of paying attention to classroom leadership and its effect on improving students' academic performance in teachers.

6. Finally, due to the positive relationship between new teachers' digital competence and classroom leadership, the Ministry of Education can detect strengths and improvable areas by becoming aware of the current state of teachers' digital competence. In addition, they can take practical steps toward empowering new teachers, like organizing educational seminars, workshops, and courses to enhance their digital competence and, consequently, improve their classroom leadership. In this regard, it is necessary to incorporate digital competence into new teachers' plans for individual and professional development by developing and implementing convenient mechanisms. Ultimately, the top-ranking managers of the education system and staff managers in the offices of education should offer modern technological instruments to new teachers for their optimal use in teaching-learning.

Limitations

As the present study was conducted on a sample of new teachers who graduated from Farhangian University, Fars Province, random sampling still needed to be implemented despite the researchers' efforts. Thus, generalizing

the study's results to other new teachers nationwide needs to be performed with care.

Ethical considerations

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community.

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Conflict of interest

According to the authors of the present article, there was no conflict of interest.

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