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Examining the Relationships between Teachers' Job Satisfaction and Technological Competencies

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Abstract

This study aims to examine teachers' perceptions of technological efficacy and job satisfaction and the relationships between them from a holistic perspective according to teachers' views. Within the scope of the research, a study was conducted on 293 teachers selected from the central districts of Kyzylorda, Kazakhstan, by the convenience sampling method. "Technology Self-Efficacy" and "Minnesota Job Satisfaction" scales developed by Wang, Ertmer and Newby (1999) were used to measure teachers' self-efficacy perceptions towards technology. The study showed that teachers' internal job satisfaction was high, external job satisfaction, general job satisfaction, and technological competence perceptions were moderate. Teachers' job satisfaction varies according to gender and professional seniority. The internal job satisfaction of female teachers was found to be high; however, it was concluded that as professional seniority increased, external job satisfaction increased. In the study, it was concluded that teachers' perceptions of technological efficacy decrease with increasing seniority. In addition, male teachers' perceptions of technological efficacy were higher than their female colleagues. Finally, the study found significant relationships between teachers' technological competencies and job satisfaction.

Introduction

Technology shows itself in every aspect of daily life. It is known that technology, which has become an indispensable element of our age, is actively used in every field, from communication to commerce, from banking to education. In addition, information and communication technologies, which are developing day by day, provide easy access to information (Olowo, Alabi, Okotoni, & Yusuf, 2020). It is seen that technology, which makes knowledge production a tool, undoubtedly changes the learning-teaching process (Perdana, Jumadi, & Rosana, 2019). It is stated that educators use technology to satisfy the individual's hunger for knowledge, to increase the efficiency in learning-teaching activities, to provide diversity in teaching methods based on individual differences, and to eliminate deficiencies in teaching-learning environments (Bransford, Brown, & Cocking, 2000; Karsenti & Bugmann, 2018). Accordingly, it is seen that the education ministries of various countries are making different

efforts to ensure technology integration into educational environments in schools (Chen, Looi, & Chen, 2009; Zhussupbayev et al., 2023; Nagima et al., 2022; Zhumash et al., 2021; Ospankulov et al., 2022). The use of technology in the education system, especially in the learning-teaching process, has become more critical in recent years. Especially in recent years, information and communication tools have been widely used from pre-school to primary education institutions, from secondary to higher education institutions. The use of technology in education expressed here is not only using technological tools in lessons but also integrating technology into the learning-teaching process. In other words, while technology is a tool that can only be used in teaching content, technology integration focuses on using technology in learning environments (Barksdale, Upadhyay & Vernon, 2021; Sarikaya, 2021; Wallace-Spurgin, 2018). At this point, teachers have a great responsibility because it is the teachers who will realize the technology integration in the learning environment.

In recent years, the use of computer-based technologies in education by teachers and students has gained importance (Russell, Bebell, O'Dwyer, & O'Connor, 2003). Computers and other technological tools have an essential role in creating rich learning environments, responding to different learning styles of students, transferring what has been learned, supporting higher-order thinking, providing the opportunity to compare students with real-life problems, and supporting lifelong learning (Coutinho, 2007). It can be thought that the effective use of technology in the classroom environment, which contributes to teaching to such a degree, increases the professional quality of teachers. On the other hand, preparing students for daily life increasingly surrounded by technological innovations will be possible with the presence of well-trained teachers. In this respect, teacher training institutions need to equip pre-service teachers with the technologically necessary knowledge and skills (Gronseth et al., 2010).

In addition to the studies emphasizing that teachers should be competent in using technology, Olson, James, and Lang (1999) and UNESCO (2008) stated that teachers should be technology literate, benefit from computers and other technologies, and also use online journals, packaged software, e-mail to share information. Tools are required to be used. There are significant differences between the technology competencies that educational institutions expect from teachers and the technology competencies of teachers as a result of research conducted in this field. In order to eliminate these differences, the teachers who are on duty should be trained with in-service training, and the teacher candidates who are prepared for the duty should be trained to use technology effectively. Determining the sub-dimensions teachers should have in the subject of technology will benefit the planning and effectiveness of the training in this field. In this direction, the technology competencies of teacher candidates were examined together with their sub-dimensions.

Today, it is vital to develop the qualifications of teachers regarding the use of technology in line with the need to gain 21st-century skills (Vo & Nyugen, 2010). The teacher has the necessary competencies in the use of technology; It is essential in terms of both continuous professional development, effective use of technology in lessons, and being a model for students in effective technology use (Doğru, 2020; Kibici & Sarıkaya, 2021; Kaleli, 2021; Seferoğlu, 2009). Effective use of technology in education; It is a multifaceted and complex process that does not only end with the inclusion of educational technologies in the learning environment but also requires pedagogical knowledge and some competencies in terms of instructional and administrative aspects (Chai, Koh,

Tsai & Tan, 2011; Kara, 2021; Kibici, 2022). As the positive aspects of educational technologies in effective teaching emerge, it is seen that different tools and systems related to the use of technology in education have been developed and put into practice (Sünbül, Gündüz & Yılmaz, 2002). This situation revealed the necessity of increasing the technology competencies of teachers (Ertmer et al., 2012). At this point, it is necessary to question whether teachers have specific competencies (Kaleli, 2020). Based on the requirements above, various standards have been established for teachers to determine the definitions and limits of the knowledge and skills teachers have (Dalton, 2009). According to Bandura (1997), an individual's self-efficacy must be high to have a judgment about achieving a job. Although self-efficacy changes according to the conditions of the environment, the subject, the difficulty of the subject, and the mastery of the subject, the individual's beliefs, perceptions, and attitudes are also very effective. In this context, researching the technology competencies of teachers is very important in terms of efficient education and continuing professional development.

Considering students' interests, wishes, and abilities, teachers, who play an essential role in providing the best education, should be able to use technology effectively in the education of 21st-century children and youth. Teachers' technology use competencies in their lessons impact student success and permanence of knowledge. It is crucial for education administrators and teachers to use technology effectively in the education process and lessons and to encourage students in this regard. Because it is seen that teachers who are open to innovations and have high technological proficiency are more successful (Angeli, & Valanides, 2011; Foulger et al., 2017), it can be said that teachers' level of proficiency in using technology and their tendency to be open to development and continuous renewal increase their success and facilitate working conditions (Gamrat et al., 2014). Considering the current needs of this study, it is thought that putting the modern education approach, which develops with technology, to work together will be one of the critical indicators of success in education (Brooks-Young, 2006). The role of school administrators and teachers in using and adapting technology in education and training is quite significant and decisive. The effective use of constantly changing technologies and tools in educational processes is vital in raising students in line with their interests and abilities. Today, the use of ever-changing technology positively contributes to students' academic success and their preparation for life. Educators are expected to be technology literate, to follow developing technologies, and to use them effectively in education (Dexter, Doering, & Riedel, 2006). With the active and effective use of technology in educational activities, learning and teaching become more accessible, as well as accessing, having, and using information. Technology in education creates added value, and those who use it gain advantages over those who do not (Januszewski & Molenda, 2006; Wetzel et al., 2014). After teachers are appointed to the profession, they do many jobs and transactions related to their personnel, institution, and students on these virtual platforms. Thus, using technology tools has become an indispensable requirement for teachers. In the literature, teachers use computers (Aşkar & Umay, 2001; Doğru, 2020; Lindblom-Yla¨nne, Trigwell, Nevgi & Ashwin, 2006; Kara, 2021; Sheffield, 1996; Tasir, Abour, Halim & Harun, 2012), online technologies. (Kaleli, 2021; Kibici & Sarıkaya, 2021; Miltiadou & Yu, 2000), Various studies dealing with technology integration and technology (Kibici, 2022; Ropp, 1999; Sarikaya, 2022) and self-efficacy (Wang et al., 2014).

It is of particular importance for teachers to use information and communication technologies effectively in classroom environments, both for themselves and for their profession. In addition, teachers' use of current

technologies allows them to develop themselves professionally and increase their satisfaction in their profession. In other words, when the daily lifestyles of individuals who spend most of their lives at work are examined, the quality of life of those who are satisfied with their job also increases at the same rate. Managers who want to see productive employees in their organizations should discover the needs of their employees and find solutions that meet their expectations when their job satisfaction levels decrease on this axis. In this context, the employees' sense of belonging to the organization they work for will develop as a result of taking the necessary steps.

Teachers play an essential role in the success of educational institutions, and many factors affect this success. Every administration has to ensure that teachers work effectively. Any educational institution must follow teachers' performance, attitudes, and emotions. Thus, the educational institution can determine whether its employees are satisfied. Job satisfaction surveys are a tool to check if a person is satisfied with their job. Knowing the job satisfaction level of the institution's employees brings success because satisfaction refers to the individual elements of one's job. The concept of job satisfaction, which we can briefly define as the level of liking for the work they do, is a concept that concerns almost every individual. Because individuals are busy with a job in life and sometimes they are happy with this job and sometimes they can be unhappy.

Job satisfaction can be defined as "the positive mood that emerges as a result of the person's work experiences and the employee's negative attitude towards his/her job is job dissatisfaction" (Ünsar & Ayan, 2013). The fact that job satisfaction is affected by many factors, both in the job and the environment, reveals the multi-component structure of job satisfaction. The fact that job satisfaction is so open to influence and that this issue is so crucial for both employees and organizations increases the importance of this field. In particular, business management, wages, working conditions, etc. In addition to the general and known elements, such as the desires, needs, and expectations of the employees, other elements are essential. Moreover, one of the two equal employees may experience job satisfaction while the other may not (Kağan, 2010). Job satisfaction can also be expressed as the degree of pleasure employees get from their job. Employees' feelings toward their jobs may change. While some employees get high satisfaction from their jobs, others see their jobs as a burden and drudgery (Ünsar & Ayan, 2013). In general terms, job satisfaction can be defined as the satisfaction of the employee with his/her job, which is realized by the overlapping of the characteristics of the job and the goals of the employees (Akıncı, 2002).

When it comes to job satisfaction in educational organizations, positive situations come to mind, such as the fact that employees take pleasure from their jobs, their satisfaction levels are high, and their commitment to work is high. On the other hand, these increase the work efficiency and satisfaction of the service recipients and mean that everyone is in a win-win strategy. If everyone wins, it may mean that education's expected impact is much more palpable. Considering the importance of job satisfaction in the education system, teachers' job satisfaction levels can directly affect the quality of education and social development. According to Bilir (2007), changes in the field of education, along with rapidly changing and developing technology, bring along new needs. A work environment that responds to these needs can motivate the teacher and enable him to achieve satisfaction and motivation in his work. In this case, it can increase the quality of education and the teacher's success. The performance of the employees in the education system will enable the school to reach its goals. It is expected that a school with motivated teachers with high job satisfaction will have a high education quality and, therefore, high student success. The self-confident and self-confident stance of teachers working in such a school organization will also set a good model for students (Edinger & Edinger, 2018). It is expected that productivity and success

will increase in professions where job satisfaction is high, and job satisfaction is an essential concept in teaching. While job satisfaction in the teaching profession decreases burnout, it increases collective efficacy (Yurt, 2022). Wolpin, Burke, and Greenglass (1991) state that the factors that cause teachers' low job satisfaction are increased workload, professional inadequacy, anxiety and stress, burnout, insufficient personal rights, insufficient physical capacity of schools, and low professional status.

As teachers' job satisfaction in their work environment increases, there is a positive effect on both themselves and their students. It is essential to understand to what extent teachers' job satisfaction levels are affected, mainly due to the use of information technologies in educational environments in recent years. Therefore, this study aims to examine the relationship between teachers' information and communication technology skills and job satisfaction. In addition, answers to the following questions were sought for this purpose.

1. What is the teachers' perception of their job satisfaction and technological competence?
2. Do teachers' perceptions of their technological competencies differ significantly by gender and seniority?
3. Do teachers' job satisfaction levels differ significantly by gender and seniority?
4. Are teachers' perceptions of their technological competencies a significant predictor of their job satisfaction?

Method

This research was based on the scanning model. As it is known, an existing situation in the scanning model is tried to be determined as it is. According to the research aims, singular scanning and relational scanning models were used. The general screening model is the screening arrangements made on the whole population or a group of samples or samples to be taken from the universe to make a general judgment about the universe in a universe consisting of many elements. Single screening models are research models that are used to determine the occurrence of variables individually in terms of type or quantity. Relational screening models are research models that aim to determine the existence and degree of co-variance between two or more variables. In this context, the single survey model was used to determine the job satisfaction and technological competencies of the participating teachers in the study. The comparative relational survey model was used to compare these variables according to gender and professional seniority factors. In addition, the relational survey model was used to determine the predictive level of the technological competencies of the participating teachers on their job satisfaction.

The study group of this research consists of teachers working in different primary, secondary and high schools in Kyzylorda, Kazakhstan. A total of 326 teachers participated in the study. The participation rate in the research was calculated as approximately 90%. However, since the scales completed by 33 of them were missing, the answers of 293 teachers were analyzed. In determining the research sample, 293 teachers from primary and secondary schools in the center of Almaty, who was reached according to the convenience sampling method, took part. One hundred seventy-five of the teachers are female, and 118 of them are male. Considering the teachers' tenure, it was seen that 58 had 0-5 years, 56 of them 6-10 years, 82 were 11-19 years, and 97 had a seniority of 20 years or more.

Data Collection Tools

Technological Competence Scale

Developed by Wang, Ertmer, and Newby (2004), this measurement tool is a five-point Likert-type scale to determine teachers' self-efficacy perceptions about technology integration. Persons who will fill out the scale; their level of agreement for each statement in the scale; disagree entirely (1), disagree (2), neither agree nor disagree (3), agree (4), and completely agree (5). According to the results of exploratory factor analysis, a single factor and 16-item structure emerged in the Kazakh version of the scale. This single-factor structure explains 54.48% of the total variance. The load values of the items in the one-dimensional factor of the scale ranged from .50 to .87. The scale's reliability was calculated with the Cronbach alpha internal consistency coefficient. As a result of the analysis, the reliability value of the scale was calculated as .92.

Job Satisfaction Scale

The Minnesota Satisfaction Questionnaire was used in this study to measure teachers' job satisfaction. Weiss, Davis, England, and Lofquist (1967) developed a 20-item scale by combining the items related to satisfaction states consisting of internal and external factors from the long form (100 items) of the Minnesota Job Satisfaction Scale. Therefore, three scores are obtained from this scale: internal job satisfaction, external job satisfaction, and general job satisfaction from the sum of the two dimensions. The reliability coefficient of the original scale was found to be .83, and the test-retest reliability of the scale was found to be .89 in many studies conducted abroad. As a result of the reliability study carried out for this research, the internal consistency coefficient was calculated as .81. In the interpretation of the arithmetic averages obtained in the scale, Average values between 1.00-5.00 are "Very low job satisfaction: 1.00-1.79", "Low job satisfaction: 1.80-2.59", "Moderate job satisfaction: 2.60-3.40", "High job satisfaction: 3.41-4.20" and "Job satisfaction: 3.41-4.20" very high satisfaction: 4.21-5.00".

Data Analysis

t-test, one-way analysis of variance (ANOVA), correlation, and regression analyzes of the parametric tests related to the data obtained from the applied scales were tested with the SPSS 26 package program. In this study, the relationship between technological competence and teacher job satisfaction with gender and seniority was determined by a t-test and one-way analysis of variance (ANOVA). The correlation analysis revealed the degree and direction of the relationship between technological competence and teacher job satisfaction. Regression analysis, on the other hand, was used to determine the predictive level of technological competence on teacher job satisfaction.

Results

When Table 1 was examined, it was determined that the variable with the highest average was internal job satisfaction (Mean = 4.08), followed by general job satisfaction (Mean =3.55) and technological competence (Mean =3.29), respectively. The variable with the lowest mean was found to be extrinsic job satisfaction

(Mean=3.23). It was observed that the internal job satisfaction of the participant teachers was high in general, whereas the external job satisfaction, general job satisfaction, and technological competence were moderate. In Table 2, the mean and standard deviation values of technological competence according to the gender factor and the t-test results showing the relationship of this variable with the gender factor are given.

Table 1. Descriptive Statistics Results on Teachers' Job Satisfaction and Technological Competence

	N	Minimum	Maximum	Mean	Std. Deviation
Intrinsic Motivation	293	1.00	5.00	4.08	0.51
Extrinsic Motivation	293	1.00	5.00	3.23	0.64
General Motivation	293	1.00	5.00	3.55	0.53
Technological Competence	293	1	5	3.29	0.63
Valid N (listwise)	293				

When Table 2 is examined, it is seen that the average Technological Competence (Mean = 3.04) of female teachers is lower than the average of male teachers (Mean = 3.52) according to the gender factor. The difference between the technological competencies of the groups is significant and high. In Table 3, the mean and standard deviation values of internal, external, and general job satisfaction according to the gender factor and the t-test results showing the relationship of these variables with the gender factor are given.

Table 2. t-Test Results Showing the Relationship between Technological Competence and Gender Factor

		N	Mean	Std. Deviation	t	p
Technological Competence	Female	175	3.04	0.60	3.59	0.00
	Male	118	3.52	0.67		

Female teachers' mean internal job satisfaction score (Mean= 4.10) is partly higher than their male colleagues (Mean=4.07). On the other hand, male teachers' external job satisfaction averages (Mean =3.29) are slightly higher than female teachers' averages (Mean= 3.19). Similarly, male teachers are slightly higher. However, internal, external, and total job satisfaction levels do not show a significant difference ($p>.05$) in gender. In Table 4, the mean and standard deviation values of technological competence according to the professional seniority factor and the F-test results showing the relationship of this variable with the professional seniority factor are given.

Table 3. t-Test Results Showing the Relationship between Job Satisfaction and Gender Factor

		N	Mean	Std. Deviation	t	p
Intrinsic Motivation	Female	175	4.10	0.55	0.45	0.65
	Male	118	4.07	0.47		
Extrinsic Motivation	Female	175	3.19	0.67	-1.36	0.18
	Male	118	3.29	0.59		
General Motivation	Female	175	3.53	0.56	-0.86	0.39
	Male	118	3.58	0.47		

According to Table 4, F value of 3.53 was calculated among the technological competencies of the teachers according to the variable of professional seniority. This finding shows a significant difference at the 0.05 significance level. According to further analysis, it was seen that teachers with 5 or less professional seniority had significantly higher technological proficiency than their colleagues with more seniority. In Table 5, the mean and standard deviation values of internal, external, and total job satisfaction according to the professional seniority factor and the F-test results showing the relationship of these variables with the professional seniority factor are given.

Table 4. ANOVA Results Showing the Relationship of Technological Competence with the Seniority Factor

	Professional Seniority	N	Mean	Std. Deviation	F	p
Technological	5 and less	58	3.57	0.43		
Competence	6-10	56	3.31	0.63		
	11-19	82	3.24	0.63	3.53	0.02
	20 and more	97	3.22	0.67		
	Total	293	3.29	0.63		

According to Table 5, according to the variable of professional seniority, 0.42 F values were calculated for teachers' internal job satisfaction, 3.01 F values for external job satisfaction scores, and finally, 2.46 F values for total job satisfaction mean scores. According to these findings, no significant difference was found in internal and total job satisfaction according to the professional seniority variable. However, significant differences were found in the external job satisfaction scores according to the professional seniority variable.

Table 5. ANOVA Results Showing the Relationship between Job Satisfaction and Seniority Factor

	Professional Seniority	N	Mean	Std. Deviation	F	p
Intrinsic Motivation	5 and less	58	4.16	0.31		
	6-10	56	4.10	0.30		
	11-19	82	4.07	0.58	0.42	0.74
	20 and more	97	4.07	0.56		
	Total	293	4.08	0.51		
Extrinsic Motivation	5 and less	58	3.15	0.57		
	6-10	56	3.21	0.67		
	11-19	82	3.37	0.68	3.01	0.03
	20 and more	97	3.44	0.57		
	Total	293	3.24	0.63		
General Motivation	5 and less	58	3.66	0.38		
	6-10	56	3.65	0.49		
	11-19	82	3.72	0.59	2.46	0.06
	20 and more	97	3.75	0.52		
	Total	293	3.55	0.53		

According to further analysis, the external job satisfaction of teachers with 20 or more years of professional seniority was significantly higher. The findings from the correlation and regression analysis conducted to determine the relationships between teachers' perceptions of structural and psychological empowerment and their motivation levels are given in Table 6.

Table 6. Multiple Regression Analysis Results on the Prediction of Technological Competence of Teachers' Job Satisfaction Level

Model	R	Adjusted R Square	Beta	F	p
Technological Competence	0.26	0.08	0.26	21.14	0.000

When Table 6 is examined, technological proficiency has a significant relationship with teachers' job satisfaction levels (R =.26; R2=.07; p<0.05)) The mentioned independent variable explains 8% of the total variance of teacher job satisfaction. According to the standardized regression coefficient (β), the predictor variable indicates a partial relationship between teachers' job satisfaction levels (Beta= 0.26).

Discussion and Conclusion

This study examined the role of teachers' perceptions of technological competence in predicting their job satisfaction level. In addition, teachers' perceptions of technological proficiency and job satisfaction levels were discussed with a comparative approach according to gender and professional seniority variables. According to the research findings, teachers' internal job satisfaction is high, whereas their external and general job satisfaction is moderate. Results support this study's findings in the domestic and international literature. Regarding the subject, in his study in Kyrgyzstan, Arık (2010) found teachers' internal job satisfaction levels to be relatively higher than their external job satisfaction levels. In his study, Polatkan (2016) concluded that secondary school teachers have the highest internal satisfaction, followed by general and external satisfaction. According to the findings of this study, while female teachers' internal job satisfaction is high, male teachers' external job satisfaction is high. Again, as the professional seniority of teachers increases, their external job satisfaction increases. These findings are similar to the results of the studies carried out by Gürsel, Sünbül and Sarı (2002), Drafke (2009), Thakur (2007) and Weis (2002). It can be said that gender does not have an increasing effect on job satisfaction, but the social culture and living conditions that shape women's social position and work life, especially in the differentiation of job satisfaction in the teaching profession. On the other hand, some studies suggest a positive relationship between job satisfaction and age (Lee & Wilbur, 1985; Şahin & Dursun, 2009). Although teachers' characteristics are one of the determining factors in the education process, they are insufficient to explain job satisfaction. However, it is thought that teachers' fulfilling their essential roles in teaching is directly related to their job satisfaction. In this context, another variable discussed in the study is the technological competencies of teachers.

The research findings show that teachers' perceptions of technological efficacy are generally moderate. Again, the technological competencies of teachers differ according to gender and professional seniority. The technological competencies of male teachers are significantly higher than their female colleagues. These findings are similar to

the research findings of Doğru (2020), Koh and Chai (2011), Kaleli (2021), and Kibici (2022). In the study, negative relationships were found between the professional seniority of teachers and their technological competencies. In other words, the results indicate that teachers' self-efficacy towards technology decreases with increasing seniority. The results of a study conducted in parallel with the results of this study reveal that teachers' computer self-efficacy is negatively related to age and seniority (Doğru, 2020; Inan & Lowther, 2010; Kara, 2021; Kibici & Sarıkaya, 2021; Kibici, 2022; Mueller et al., 2008; Rojo-Ramos et al., 2020).

According to the findings, a significant relationship was found between technological competence and job satisfaction. In the regression analysis results, it was found that the perception of technological competence positively predicted job satisfaction. Based on this result, It can be said that as teachers' technological competence level increases, job satisfaction will also increase. Since individuals with high technological competence are aware of themselves and their competencies, the standards they set are also more accurate and accessible. Therefore, these individuals are more likely to meet their standards and put them into performance. Therefore, it can be said that these individuals can make positive inferences about themselves and reach satisfaction in their profession after the performance they have achieved in the workplace through their technological competencies. These findings are similar to the results of studies conducted by Cox, Cox and Preston (1999), Hagan (2004), Sahito and Väisänen (2017), Sakallı, Fidan & Yıldıran (2020). Having technological competencies has many positive effects on job satisfaction and motivation. Thanks to the improvement in business processes with new technologies, long-term tasks are completed in a shorter time and using fewer resources, the needed information can be accessed effectively in a much faster time, the complexity of the work is reduced, the controls on the work increase, the error rate decreases, and the workload is lightened. In addition, thanks to new technologies, the satisfaction level of the people receiving service increases, and more information can be shared with people. All these have a positive effect on the employee's job satisfaction and motivation. The use of new technologies in schools is increasing, and the development of teacher proficiency in this direction creates multifaceted gains. This affects teachers' job satisfaction and motivation and triggers students' motivation. According to Selwood and Pilkington (2005), technological competencies increase teachers' use of new instructional technology at home, school, and in learning-teaching processes, which also increases their confidence in job satisfaction.

Considering the effect of job satisfaction and technological competencies on job performance in the working environment, teachers' awareness of the variables affecting job satisfaction and technological competence is essential. This awareness can solve problems in work-life dissatisfaction, stress, and work performance. In this study conducted with teachers, findings related to the literature were obtained. However, in addition to this type of quantitative research, qualitative (observation, case study, interview, document analysis, etc.) and experimental studies (different experimental design types according to the research purpose) can be carried out with different teachers.

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