IJELS Educating for the Future

International Journal of Education & Literacy Studies
ISSN: 2202-9478
www.ijels.aiac.org.au

AIAC Flourishing Creativity & Literacy

The Relationship between School Administrators' Agile Leadership and their Innovation Management Competencies

Gökçe Özdemir*

Gaziantep University, Gaziantep, Turkey

Corresponding author: Gökçe Özdemir, E-mail: gozdemir382@gmail.com

ARTICLE INFO

Article history
Received: November 30, 2022
Accepted: January 18, 2023
Published: January 31, 2023
Volume: 11 Issue: 1

Conflicts of interest: None
Funding: None

ABSTRACT

The purpose of this research is to determine the relationship between school principals' agile leadership and innovation management competencies according to teacher perceptions. The research is in the scanning model, which is one of the descriptive research methods. The study group of the research consists of primary school teachers working in Şahinbey district of Gaziantep province. The sample of the study consists of 375 teachers who were determined by the "Simple Random Sampling" method from the population. Research data were collected with "Agile Leadership" and "Innovation Management" scales. In the study, correlation analysis was used to determine the relationship between the variables, and multiple regression analysis was used to examine the relationship between agile leadership competancy on innovation management competency. When the research findings were examined, it was concluded that there was a positive and highly significant relationship between teachers' perceptions of school principals' agile leadership and their perceptions of innovation management competencies (r=.61; p=.000; p<.05). According to the results of the regression analysis, teachers' agile leadership perceptions significantly predict their perceptions on innovation management competency (ΔR^2change =.615, p<.001). Based on the research data, it was concluded that the increase in teachers' agile leadership perception increased their perception of innovation management competence. In addition, school principals can create the organizational culture and structure necessary for agile leadership by increasing their ability to share responsibility and be effective, and thus increase teachers' perceptions of agile leadership and innovation management competencies.

Key words: Agile Leadership, Innovation Management, School Principal

INTRODUCATION

From past to present, the concept of innovation has been defined in many ways. The concept of innovation, derived from the word "innovatus", a concept of Latin origin, can be defined as "the discovery of new methods in society, organizations or products and the use of the products obtained from these methods in a beneficial way". The concept that is "innovation" in the western literature is used as "invasion" in the Turkish language. The concept of innovation is defined as "invasion" in the dictionary of the Turkish Language Association (TDK, 2021). In the same dictionary, the concept of innovation is defined as "the use of new methods in social, cultural, and administrative environments in order to adapt to changing conditions" (TDK, 2018). Although the word "new" in the root of the word innovation is perceived as the opposite of the word "old", it is also an innovation that a product that corresponds to the old concept is offered and demanded in a different way (Keskin, 2012; cited in Şahbaz, 2017).

The concept of innovation in education refers to improving the quality of education given in educational institutions, transforming education into an effective and target-oriented system that does not miss the requirements of the age and gives children the ability to think creatively (Çiftçi & Gündüz, 2016). Education has a different purpose and function than other fields of activity and sectors. For this reason, innovations in education differ from other organizations and sectors due to their nature and practitioners. When it comes to innovation in education, it is understood primarily as the renewal of the curriculum in schools, universities, and other education centers, the renewal of the processes and technologies in the presentation of the products and the services offered. Especially in the environment where today's information technologies are in almost every field of education, the concept of innovation in education emerges as a subject related to the integration of information technologies into education as well as curriculum and processes. In addition, differences such as new teaching techniques and applications that will increase learning outcomes are also prominent elements in this context (Bülbül, 2012).

Innovation processes describe the activities performed at each stage of an innovation's development. Innovation

Published by Australian International Academic Centre PTY.LTD.

http://dx.doi.org/10.7575/aiac.ijels.v.11n.1p.175

management is the management and organizing of these innovation processes (Ortt, 2008; cited in Güzen, 2020). Innovation management is a management practice that aims to further the organizational goals for innovations occurring in the industry (Birkinshaw & Mol, 2006) and is a management practice process that involves planning, directing, controlling, and coordinating the development and implementation of innovations to shape and achieve an organization's strategic and operational goals (Albors-Garrigos et al., 2018). The dimensions of innovation management in organizations have been expressed in different ways by different authors. Goffin and Pfeiffer (1999) emphasized that, to provide a successfully-managed innovation; managers the need to perform well in five dimensions: innovation strategy, management of creativity and idea, selection and portfolio management, human resources management and application management. Watt (2002) states that innovation in schools includes four dimensions and these dimensions are culture and climate, innovative individuals, leadership and processes and structures. Cormican and O'Sullivan (2004) drew attention to the importance of leadership and culture in innovation management and emphasized five basic dimensions as strategy and leadership, culture and climate, selection and planning, performance and structure, communication and cooperation. Tidd et al. (2005) list the elements of innovation management as; vision and leadership, organizational structure, key point individuals, individual development, effective teamwork, effective communication, high participation in innovation, customer orientation, learning organization and creative climate. Adams et al. (2006) put forward seven dimensions of innovation management based on the literature review. These dimensions are as follows: information management, input management, strategic management, organizational structure and culture, project management, portfolio management, and commercial competition. Smith et al. (2008) state that, based on their literature review, there are nine main dimensions and sub-dimensions that affect innovation management in organizations. That is dimensions; style of management and leadership, technology, process of innovation, innovation strategy, organizational structure, organizational culture, employees, resources, and knowledge management. Although there are different classifications for the dimensions of innovation management, it can be said that the common point of all classifications can be stated that innovation management covers all areas, aspects, and employees of the organization and that it is a process that requires constant and continuous attention, and effort in the organization.

In order to catch the speed and continuous changes in science, technology, and management style, as in all organizations, innovations may be needed in schools, which are the most important organizations of a society in terms of raising people and building the future. For this purpose, education systems are constantly updated according to the requirements of the age, and innovation from the top of educational institutions to the teacher in the classroom environment is becoming a necessity. The focus of innovations in education is to train people with the equipment required by the information society, and as a result, the aim is to produce information and transform it into technology that will add value by using this information (Kabakçı, 2008). Today, almost all individuals in a society must receive education in schools. Therefore, it can be said that the education given by school organizations shapes the entire future of a society. The most general effect of innovation in education is the change of society; the most special effect is the preparation of the individual for the society with positive changes (Göl & Bülbül, 2012). In order to manage innovations in organizations, managers need to act quickly, be competent in their fields, think the process and people-oriented, and have aptitude towards innovation and experimentation (Sheridan, 1993; Sharifi & Zhang, 1999; Karacabey, 2013). In this framework, the concept of organizational agility and agile leadership gains importance.

The concept of agility is known as 'atiklik, pratiklik' in Turkish. However, in the globalizing world and the ever-evolving market, it has expanded in the sense of "managing changing conditions, solving and managing complex and hard-to-solve interrelated problems effectively" (Mehdibeigi et al., 2016). Different definitions have been made in different areas regarding the concept of agility. The concept of agility is generally defined as the ability of organizations to adapt to innovation processes in organizations that are highly affected by globalization and to survive in environment including competitive and uncertain issues (Hayward, 2018). The concept of agility first started to draw attention as "organizational agility" in the 1990s (Wendler, 2016) and in the 2000s, "an organization's ability to predict and respond to rapidly changing conditions" (Cooke, 2012) and "organizations that can effectively manage complex and interdependent relationships" (Denning, 2018). While the concept of organizational agility has advanced considerably in all sectors, it has just entered the field of education. Organizations in the field of education, like organizations that show the characteristics of agile production and agile organization, must perceive and adapt to the changing and developing conditions of the 21st century and the globalizing world (Kamat & Sardessai, 2012). Organizational agility means always being ready in market conditions that are rapidly developing, changing and open to change (Mehdibeigi et al., 2016). It is to be able to respond immediately to the development and change of the external environment, to take precautions against the threats that may arise, and to stand ready in a competitive situation by using the opportunities effectively and increasing the market capability (Karacabey, 2013). Organizational agility varies according to the researched subject. In this context, it is possible to examine it from two perspectives. First, it is the ability to organize and adjust its activities in an instant against the constantly changing market conditions and rapid changes. The second is that it is not only in terms of talent, but also with different aspects such as strategy, management, and order implementation (Özler et al., Özler 2010). Methodologies related to organizational agility in the last few years, due to reasons such as dynamic environments and environmental changes, has become an important factor that makes it necessary for institutions and managers to react quickly (Nerur et al., 2005). As organizational agility methodologies become

important, organizational managers voluntarily try to implement more flexible management processes and exhibit agile leadership characteristics. Organizations in which managers exhibit agile leadership behavior are open to development and change, so employees are in constant interaction and development (Özeroğlu, 2019). Therefore, it is important for managers to bring their teammates together in order to establish interpersonal relations and work together in a competitive environment.

Agile leadership paradigm is seen as a concept that was born as a response to the uncertainty created by today's conditions, and the problems of not being able to adapt to rapid change processes and tough competition conditions (Sharp et al., 1999). Especially for organizations with the idea of developing new leadership paradigms that can adapt to today's conditions; organizations that have been looking for leaders who can make quick decisions, have foresight, exhibit authentic characteristics, go beyond hierarchical structuring, and basically act in accordance with the understanding of organizational agility (Hayward, 2018). In the light of all this information, Joiner and Josephs (2007) summarized the phenomenon of agile leadership as "the ability to act wisely and effectively under complex, rapidly changing conditions" (Joiner & Josephs, 2006). The skills that a leader should have as an agile leader are; ability to absorb agility, to have competence in determining a roadmap, to create an atmosphere of empathy and trust, to care about organizational empowerment, to motivate personnel to work, to create cooperation, and to make correct and fast decisions. According to Joiner (2006), stages of agile leadership are explained in four stages as leadership feature, giving feedback feature, team leadership, and organizational change leadership. When these stages are examined, it is seen that an agile leader has a high tactical skill, is strategy-oriented, results-oriented, cares about the development of his subordinates, does not hesitate to give feedback, takes the role of consultant, prioritizes external environment analysis, works collaboratively with other leaders and can use the synergy in the workplace to create benefits. In addition, in related literature, it was seen that concepts such as emotional agility, synergetic agility, digital literacy, and technological agility, proactivity and shared responsibility agility, and openness to innovation and adaptability agility came to the fore and formed the sub-dimensions of agile leadership paradigm (Hillis, 2014; Olbrich et al., 2015; David, 2016; Doeze jager-van Vliet, 2017; Collins, 2018; Hayward, 2018).

Emotional Agility

The essence of this concept is emotion management, emotional awareness, and emotional resilience. This concept is a skill that is more common in people with high emotional intelligence who guide leaders in coping with the uncertainties of the change process. Emotional agility is one of the most important signs that someone is open to change, progress, and growth. Leaders with high emotional agility take pride in being flexible and creative in their approaches instead of being stuck in questioning what change means for themselves and their egos (Mulhbauer, 2018).

Synergetic Agility

Synergetic agility, which constitutes an important dimension of agile leadership, is explained as the ability to influence employees by empathizing with them in a holistic orientation. Synergetic agility means that teams in the organization act jointly to achieve common goals in cooperation with each other (Joiner & Josephs, 2006).

Digital Literacy and Technological Agility

It is very important for organizations to show innovative and competitive performance in today's business life. Because it has become an increasing need for organizations to use all kinds of technological richness such as process, information, and communication technologies in order to increase their agility. In particular, benefiting from information technologies in the integration of sustainable business values, business strategies, organizational structure, and competencies is important.

Proactivity and Shared Responsibility Agility

For organizational structures that are flexible and adaptable to change, leaders should act proactively instead of acting reactively, be people who challenge the status quo instead of applying the status quo, and create environments to improve current conditions. Because expectations from leaders are that they can act agile by developing their flexible thinking skills in making decisions and taking action even in chaotic environments (Collins, 2018). The role of shared responsibility and proactivity agility draws a roadmap for leadership that examines the current order, requires foresight, and requires being active in role sharing in order to increase efficiency.

Openness to Innovations and Agility to Adapt

Leaders who adapt easily to innovations exhibit behaviors such as acting together, empathizing and caring about the development of themselves and their subordinates in order to achieve common goals, even in environments where uncertainties are in effect. The role of openness to innovations and adaptability agility can be explained as the leader being the initiator of innovation, being able to bridge the gap between the past and the present, and using unique thoughts and methods.

Results in the literature, show that having agile leadership skills is of significant importance in the development of organizations. Özeroğlu (2019) found in his study that there is a significant relationship between the leadership levels of hospital administrators and their organizational agility. Similarly, Lu and Ramamurthy (2011) found that technology positively affects agility in their study, in which they examined the relationship between the technology capacity of organizations and organizational agility. In addition, agile leaders; It is necessary to be open to change, to have effective communication within the team, to deliver products quickly and continuously, to give importance to testing, to

make simple but realistic planning, and to exhibit innovative behaviours. In this context, the idea that agile leadership and innovation management competence are effective on organizational outputs and contribute positively to the organization has been the starting point of this research.

Purpose of the Research

In the current study, it is aimed to determine the relationship between school administrators' agile leadership and their innovation management competencies according to teacher perceptions.

Research Questions

For this purpose, research questions were determined as:

1. According to teacher perceptions, what is the relationship between school administrators' agile leadership and innovation management competencies?
2. According to teacher perceptions, are the sub-dimensions of agile leadership a significant predictor of innovation management competence?
3. According to teacher perceptions, is school administrators' agile leadership a significant predictor of innovation management competencies?

METHOD

In the study, it was aimed to determine the relationship between school principals' agile leadership and innovation management competencies according to teacher perceptions. In line with the stated purpose, the correlational research method was used in the research. During the research process, scientific research ethics were taken into consideration.

Research Population and Sample

The study group of research consists of primary school teachers working in the Şahinbey district of Gaziantep province in Türkiye. The sample of the study consists of 375 teachers who were determined by the "Simple Random Sampling" method from the population. The demographic variables of the study group of research are as follows: 55.7% of the participants were female (n=209) and 44.3% was male (n=166); 42.9% were between the ages of 25-35 (n=161), 34.4% were between the ages of 36-45 (n=129), 22.7% of them were aged 46 and over (n=85); 78.1% of them were undergraduate (n=293) and 21.9% of them were postgraduate education (n=82). When the professional seniority of the participants is examined, 20.3% of them are 1 year or less (n=76), 22.7% are between 2-5 years (n=85), 33.3% are between 6-10 years (n=125), and 23.7% of them had professional seniority of 11 years or more (n=89).

Data Collection Tools

In the study, the data were collected with two different data collection tools, namely "the Agile Leadership Scale" and "the Innovation Management Scale".

Agile Leadership Scale: The scale developed by Özdemir and Çetin (2019) consists of 56 items and 5 sub-dimensions and is a 5-point Likert scale. The Cronbach alpha value for the overall scale is .94, for "Shared Responsibility and Proactivity Agility" sub-dimension is .97, for "Synergy Agility" sub-dimension is .98, for "Emotional Agility" sub-dimension is .99, for "Digital Literacy and Technology Agility" sub-dimension is .98, and for "Openness to Innovation and Agility to Adapt" sub-dimension is .98. The scale is rated as a 5-point Likert scale. Within the scope of this study, the Cronbach's alpha value calculated for the overall scale was found to be .95, while the Cronbach's alpha values for the sub-dimensions were found to vary between .80 and .97.

Innovation Management Scale: In the research, the "Innovation Management Scale" developed by Bülbül (2012) was used to determine the views of teachers on school administrators' innovation management. The scale consists of 32 items and 4 sub-dimensions. The Cronbach's alpha value for the overall scale is .96, the "Input Management" sub-dimension is .88, the "Innovation Strategy" sub-dimension is .88, the "Organizational Culture and Structure" sub-dimension is .90, and the "Project Management" sub-dimension is .94. The scale is rated as a 5-point Likert scale. Within the scope of this study, the Cronbach's alpha value calculated for the overall scale was found to be .86, while the Cronbach's alpha values for the sub-dimensions were found to vary between .85 and .91.

Data Analysis

The scales used to collect the research data were sent to the participants via Google Forms. After the answers given to the sent scales were transferred to Microsoft Excel program, they were entered into SPSS 25 package program for analysis of the data set. First of all, in order to test the assumption that the research data are suitable for the analyses to be made, the central tendency measures and the skewness and kurtosis coefficients were examined in order to determine whether predicted variables showed a normal distribution, and the analysis results are given in Table 1.

When Table 1 is observed, it is seen that the values of central tendency measures are close to each other, and the skewness and kurtosis coefficients are also within ±1 value. In order to determine whether the data set meets the assumptions regarding the regression analysis, the linearity graph was examined to determine whether the relationship

Table 1. Descriptive statistics on predictor and predicted variables

	Agile Leadership	Innovation Management
Mean	3.48	3.71
Medium	3.57	3.78
Mode	3.63	3.81
Skewness Coefficient	-0.27	-0.69
Kurtosis Coefficient	-0.64	0.8
Kolmogorov-Smirnov	.08, p>.05	.06, p>.05

between the predictor variables were linear, and it was concluded that the normal distribution curves showed a normal distribution. In addition, variance amplification factor value (VIF=1/(1-R^2), 2.7<10) and tolerance value (TV=1-R^2, 0.3>0.2) were examined in order to determine the correlation between the predictor variables, and the correlation between the variables. It was concluded that there was no multicollinarity. Mahalonobis distance values were calculated because the extreme values in the data set disrupted the compliance of the existing regression equation with the theoretical model (Can, 2017). In the calculated values, 3 of the cases were deleted from the data set because the values with Mahalanobis distance above 9.21 for p=.01 were extreme values. In the study, descriptive statistics were used to determine the demographic variables of the participants, their level of perception towards the predictor and predicted variables, correlation analysis to determine the relationship between the variables, and regression analysis to determine whether organizational agility is a significant predictor of innovation management competence.

FINDINGS

In order to achieve accurate results from the regression analysis, it is expected that there is no multicollinearity between the predictor variables. In this context, the findings obtained as a result of the analysis of the data collected for the research question "What is the relationship between the agile leadership of school administrators and innovation management competencies according to teachers' perceptions?" by means of correlation analysis are presented in Table 2.

When Table 2 is observed, it was concluded that the teachers' perceptions of school administrators' agile leadership were the highest in the emotional agility (M =3.52) sub-dimension, and among the innovation management competencies sub-dimensions, they were deemed more adequate by the teachers in the project management (M =3.44) sub-dimension. According to the correlation values between the variables, it was determined that there was a moderate positive relationship (r=.61; p<.01) between shared responsibility and proactivity agility and organizational culture and structure sub-dimensions. In addition, it is seen that there is a high positive relationship (r=.72; p<.01) between shared responsibility and proactivity agility and innovation management in general. There is a moderate positive relationship (r=.61; p<.01) between agile leadership and innovation management. In other words, as teachers' agile leadership perceptions about school adminisrators increase, their perceptions of innovation management competencies also increase.

Multiple linear regression analysis was conducted to determine the agile leadership dimensions, which are the best predictors of the innovation management competencies of school administrators. Regression analysis results are given in Table 3.

After controlling for demographic variables, the hierarchical multiple regression analysis results regarding the prediction of general innovation management by agile

Table 2. Mean, standard deviation and binary correlation matrix of school administrators' agile leadership and innovation management proficiency levels and observed variables

	M	***SD***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1.Shared Responsibility and Proactivity Agility	3.30	0.67	1	0.67**	0.43**	0.39**	0.40**	0.61**	0.59**	0.68**	0.67**	0.77**	0.72**
2.Synergy Agility	3.44	0.51		1	0.51**	0.39**	0.39**	0.52**	0.59**	0.64**	1.0**	0.75**	0.58**
3.Emotional Agility	3.52	0.77			1	0.71**	0.70**	0.42**	0.28**	0.43**	0.53**	0.78**	0.52**
4.Digital Literacy and Technological Agility	3.51	0.86				1	0.78**	0.40**	0.22**	0.37**	0.41**	0.62**	0.43**
5.Openness to Innovations and Agility to Adapt	3.50	0.86					1	0.42**	0.23**	0.37**	0.41**	0.73**	0.44**
6.Input Management	3.40	0.75						1	0.52**	0.64**	0.53**	0.66**	0.66**
7.Innovation Strategy	3.38	0.75							1	0.57	0.60**	0.57**	0.69**
8.Organizational Culture and Structure	3.11	0.83								1	0.62**	0.69**	0.74**
9.Project Management	3.44	0.51									1	0.65**	0.78**
10.Organizational Agility (General)	3.49	0.62										1	0.61
11.Innovation Management (General)	3.36	0.55											1

**p<.01

Table 3. Multiple linear regression analysis results to determine the agile leadership sub-dimension, which are the best predictors of innovation management competence

	Model	**Predicted Variable: Innovation management**				
	Predictive Variables	***B***	***ShB***	**β**	***t***	***p***
1 (Enter method)	(Fixed)	3.677	0.112		28.731	.000***
	Gender	-0.057	0.066	-0.054	-0.864	.388
	Age	-0.062	0.098	-0.093	-0.634	.527
	Level of Education	-0.245	0.080	-0.192	-3.065	.002**
	Seniority	0.076	0.072	0.155	1.056	.292
2 (Stepwise method)	(Fixed)	3.730	0.083		45.160	.000***
	Gender	-0.178	0.054	-0.169	-3.306	.386
	Age	-0.023	0.019	0.040	-1.129	.060
	Level of Education	-0.284	0.064	-0.022	-4.401	.080
	Seniority	-0.032	0.040	-0.012	-0.210	.714
	Shared responsibility and proactivity agility	0.482	0.009	0.601***	56.553	.000***
	Synergy Agility	0.524	0.011	0.493***	46.706	.000***

R^2=0.621 ΔR^2=0.615**
**p<.01, ***p<.001

Table 4. Hierarchical multiple regression analysis results regarding the prediction of teachers' agile leadership perceptions on innovation management perceptions

Predictive Variable	**Predicted Variable**	***ß***	***ShB***	**β**	***t***	***df***	***F***	***p***	R^2	ΔR^2
Agile Leadership	Fixed	0.868	0.098		8.888	1	682.744	.000***	0.648	0.647
	Innovation Management	0.716	0.027	0.805	26.129	371				

***p<.001

leadership sub-dimensions are given in Table 3. In this analysis, in which 5 sub-dimensions of agile leadership were added to the model by using the stepwise method in the second step, after the control variables were entered with the enter method in the first step; among these dimensions, shared responsibility and proactivity agility and synergy agility dimensions significantly predict the general innovation management dependent variable. When the demographic variables of these sub-dimensions of agile leadership are controlled, it is seen that 61% of the variance in innovation management is explained (ΔR^2change =.615, p<.001). In addition, according to the standardized regression coefficients, shared responsibility and proactivity agility (β=.60) ranks first, while synergy agility (β =.49) ranks second in order of relative importance of predictor variables on innovation management.

The findings obtained as a result of the hierarchical multiple regression analysis according to the teachers' perceptions for the sub-problem of the research; "Is the agile leadership of school administrators a significant predictor of innovation management competencies?" are given in Table 4.

When Table 4 is observed, it is seen that a significant regression model is F(1.371) =682.744, p<.001 and 64.7% of the variance in the dependent variable (ΔR^2change =.647, p<.001) is explained by the independent variable. Accordingly, the agile leadership independent variable positively and significantly predicts the innovation management dependent variable [β=.805, t(372) =26.129, p<.001, R^2 =.648].

CONCLUSION AND DISCUSSION

In this study, which aimed to determine the relationship between school principals' agile leadership and innovation management competencies, it was concluded that teachers' perceptions of school principals' agile leadership were moderate. Akkaya et al. (2020) drew attention to the importance of agile leadership for organizations and emphasized that agile leaders should take effective adaptation actions in the face of a complex situation and technological change. Based on the data of this research, we can deduce that agile leadership skills have an increasing importance in terms of managing the process and ensuring organizational success, considering the epidemic process that the whole world has been struggling with recently, but that they have not yet exhibited the agile leadership skills expected from them sufficiently. In support of this inference, Marhraoui and Manouar (2017) stated that the concept of agile leadership is a phenomenon that continues to gain importance, especially for the development of the relations of organizations with the internal and external environment and the survival of organizations in the era of globalization and new information technologies. According to the research findings, it was concluded that the teachers also found the innovation management competencies of school administrators at a moderate level. Innovations can be achieved in organizations where innovative organizational culture is dominant, with a leader who is open to innovative ideas and has a participatory management approach (Durna & Tekin, 2012, p. 96). Luecke

(2011, p. 141), on the other hand, drew attention to the importance of the leader in developing an innovation culture, and that leaders with innovation management competence; He stated that they should have a senior leadership role in shaping the organization, guiding the operation, finding resources for innovations, and balancing between current and future problems. According to the research findings, in an environment where uncertainty and chaos are gradually increasing and change is gaining momentum; the administrators' competency of understanding the problems, making quick decisions, being flexible, being sensitive and shaping continuous change is at a moderate level. Aydoğar and Yirci (2020) stated that especially the education administrators, who will initiate and manage the innovation process, have a very good understanding of the innovation steps and their implementation is an important factor in the realization of the goals of the organization. According to the findings of the research, it was concluded that the teacher perceptions of school administrators towards agile leadership were the highest in the emotional agility sub-dimension of agile leadership. Emotion management, which constitutes the core of the concept of emotional agility; Concepts such as emotional awareness and emotional resilience are thought to be formed as a result of leaders' blending of experience and high emotional intelligence (David, 2016). We can deduce that the reason why teachers see school principals as more competent in emotional agility than other dimensions may be due to school administrators; their sincere, guiding and integrative views. Mulhbauer (2018) states that leaders with high emotional agility take pride in being flexible and creative in their approaches, instead of being stuck in questioning what change means for them and their egos. He stated that being open to change, development and growth is one of the most important signs. According to the findings of the research, it was concluded that school administrators were found to be more competent in the project management sub-dimension, which is one of the innovation management competencies sub-dimensions, compared to the other dimensions. Karataş et al. (2015) emphasized that today's school administrators should take on new roles from the autocratic and classical principal role trying to maintain the hierarchical order by applying the legislation, having a good command of information technology, able to do project-based studies, and exhibit scientific attitudes and behaviours. Based on the research findings, we can state that school principals can motivate their teachers to create an innovative school culture and to support the generation of innovative ideas. Ekinci and Yıldırım (2013), in their study, in which they examined the innovation management skills of school administrators, found that school administrators considered themselves second in terms of project management competencies, according to the degree of competence. It is thought that the difference between the two studies may be due to the sample group.

According to the correlation values between the variables, a moderate positive relationship was found between shared responsibility and proactivity agility and organizational culture and structure sub-dimensions. The management characteristics, attitudes and approaches of school administrators can give us an idea about the effectiveness of education. One of the management's features they will show is the innovative management feature. Because managers who have and demonstrate innovative management characteristics are considered successful in creating an effective and productive educational environment and preparing the organizational culture and structure for innovation (Demirtaş et al., 2007, p. 422). This situation reveals that innovative thinking should be developed, and corporate culture should be created within the framework of innovative thinking (Tanrıverdi & Alkan, 2018). In addition, based on the statement that the managers who create the organizational culture and structure are leaders who are proactive and try to improve the current conditions (Cansu, 2019), we can state that there is a moderate and positive significant relationship between these two variables.

In addition, it is seen that there is a moderate positive relationship between shared responsibility and proactivity agility and innovation management in general. The fact that the environment of competition and chaos has made institutions turbulent makes it necessary to have an organizational structure with agile qualities and to have leadership skills that can proactively manage these organizations (Joiner, 2019). We can say that in order for educational institutions to be open to developments and innovations, in harmony with global developments, and to be in a structure that cares about the needs of their stakeholders, there should be an agile corporate culture and agile corporate leaders who will create this corporate culture. Hayward (2018) defined agile leadership as a leadership model that has the working principles of agile thinking systems, makes agile business management concepts adaptable in their organization, and can adapt quickly to innovations. Based on the research findings and the literature, school principals; We can emphasize that leadership and innovation management competencies in line with the nature of agile transformation, such as being entrepreneurial, supportive of innovations and acting with a team spirit, should be further increased.

According to teacher perceptions, it was concluded that there is a moderate, positive relationship between school administrators' agile leadership and innovation management competencies. Rigby et al. (2018) argue that agile teams and leadership become important when faced with challenging problems with uncertain solutions, when the needs of projects to be completed vary, when close collaboration with end users is required, and when creativity is needed. Based on this discourse, it can be said that school principals have the skills to manage innovations, adapt and provide new opportunities for their institutions. According to Balaji and Murugaiyan (2012), agile leaders are managers who welcome the change in the needs of the people they work with, improve quality, reduce the time to market for products and services, and thus increase satisfaction. In addition, based on the research findings, it can be said that teachers find their administrators moderately sufficient in supporting new ideas and practices, implementing them and giving feedback. Aydoğar and Yirci (2020), innovative education administrators; is an innovative

company that has a clear vision of innovation, can create a flexible organizational structure, can take risks, attaches importance to innovative ideas, is researcher, implements a fair reward and incentive system, is creative and supports creative ideas, is active in their social environment, enjoys working in teams, They stated that they should be people who can create organizational culture, have high communication skills, create synergy in the organization and have responsibility.

According to the findings of the study, it was concluded that the dimensions of shared responsibility and proactivity agility and synergy agility of agile leadership significantly predicted the dependent variable of innovation management competence. Synergy agility, which represents an important point of agile leadership levels, is the ability of leaders to empathize with their employees with a holistic orientation, to have realistic predictions and intuitions for the future, and to take initiative in goal-oriented decisions (Joiner, 2019). Leaders who have synergetic and proactive agility are people who examine the current order, are active in role sharing, are flexible, can draw a roadmap by seeing the big picture, and adopt creativity and innovation (Collins, 2018). According to the research findings, we can say that the high synergy aspects of school principals and their proactive behaviors increase the perception of school principals to have innovation management competence in the eyes of teachers. Defining innovation in education as a process and result that directs innovation and creativity in the system, develops creativity, applies contemporary innovations and developments in learning-teaching processes, transforms practical knowledge into practice, and controls its outputs, taking into account all the elements of the educational process (Özkan, 2009). This definition also increases the need for an agile leader to manage this process.

According to the findings of the research, it was concluded that teachers' perceptions of school principals' agile leadership positively and significantly predicted their perceptions of innovation management competence. The aim of innovation in education generally; can be considered as creating cooperation with the private sector, universities, non-governmental organizations for the creation and implementation of innovation policies in the country, contributing to the process of creating innovation policies with the opinions and suggestions of these institutions by developing the dialogue with the political will and public institutions, and raising awareness in the public about innovation (Görgel, 2007). In addition, the innovative school principal; who are expected to be an agile leader who aims to learn, is researcher, innovative, adapts easily to changes, is a pioneer in many issues, takes joint decisions, cares about collaborative work, has strong intuition, pursues new visions, tries to present the technological innovations of the age to the school and can exhibit sufficient flexibility in every subject. In this context, we can interpret that teachers' perceptions of school principals' agile leadership affect their perceptions of seeing them as competent in innovation management. While Cestou (2020) emphasizes that agile is a social and commercial skill, so agile leaders should be flexible, intelligent and resourceful, Horney et al. (2010) emphasize that agile leaders create an environment of trust to support organizational success, they emphasized the need to liberate thoughts for products, projects and ideas. There is no doubt that agile leadership requires tackling new technologies, markets and competitors in a global world that is constantly bombarded with change and complexity.

In summary, educational institutions are at the forefront of institutions that need the themes of being able to adapt to changes, helping and cooperation the most due to their nature. Therefore, the ability to detect environmental changes and react to them quickly and effectively is very important for educational institutions. The fact that today's organizations should be designed as flexible and shaped structures is also valid for educational institutions. Because changing social demands make institutional structures that can meet the needs and the innovative, entrepreneurial, project-based thinking and agile-spirited leadership that will manage these institutions a necessity. Within the scope of this research, it was concluded that there is a moderately significant relationship between school principals' agile leadership skills and innovation management competencies and that the increase in agile leadership perception increases the perception of innovation management competency. This research was limited to teachers working in the province of Gaziantep in Türkiye. Based on this general result;

- By increasing their skills in managing innovation activities, school principals can benefit more from teachers' opinions in innovation initiatives and include them in the process, and thus, teacher perceptions of school principals' innovation management competencies can be increased.
- By increasing their ability to share responsibility and be effective, school principals can create the organizational culture and structure necessary for agile leadership, and thus increase teachers' perceptions of agile leadership and innovation management competence.
- Teachers' perceptions of school principals' agile leadership can be increased by increasing their ability to follow and apply technological developments, produce new ideas and develop social aspects within the institution so that school principals can keep up with the chaos environment that they are in.

REFERENCES

Adams, R., Bessant, J., & Phelps, R. (2006). Innovation management measurement: A review. *International Journal of Management Reviews, 8*(1) 21–47.

Akkaya, B., Kayalıdere, U.A.K., Aktaş, R., & Kargın, S. (2020). Çevik liderlik yaklaşımı ve çevik lider davranışlarını ölçmeye yönelik bir ölçek geliştirme çalışması. *İşletme Araştırmaları Dergisi, 12*(2), 1605-1621. DOI: org/10.20491/isarder.2020.932

Albors-Garrigos, J., Igartua, J. I., & Peiro, A. (2018). Innovation management techniques and tools: Its impact on firm innovation performance. *International Journal of Innovation Management*, *22*(6), 1-31.

Aydoğar, N., & Yirci, R. (2020). Devlet ve özel okul yöneticilerinin yenilik yönetimi becerilerinin karşılaştırılması: Nicel bir araştırma. *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi, 19*(39), 1286-1308. DOI: https://doi.org/10.46928/iticusbe.804129

Balaji, S., & Murugaiyan, M. S. (2012). Waterfall vs. V-Model vs. Agile: A comparative study on SDLC. *International Journal of Information Technology and Business Management, 2*(1), 26-30.

Birkinshaw, J., & Mol, M. (2006). How management innovation happens. *MIT Sloan Management Review, 47*(4), 81-88.

Bülbül, T. (2012). Okullarda yenilik yönetimi ölçeği'nin geliştirilmesi: Geçerlik ve güvenirlik çalışması. *Kuram ve Uygulamada Eğitim Bilimleri*, *12*(1), 157-175.

Can, A. (2017). *SPSS ile bilimsel araştırma sürecinde nicel veri analizi* (5. Baskı). Pegem A Yayıncılık.

Cansu, R. (2019). *Yenilikçi yönetim özellikleri gösteren okul yöneticilerinin öğretmenlerin motivasyon ve örgütsel bağlılıkları üzerine etkilerinin incelenmesi* [Yayınlanmamış yüksek lisans tezi]. İstanbul Aydın Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Cestou, J. (2020). *The role of gender expression in agile leadership* [Yayınlanmamış doktora tezi]. Benedictine University, USD.

Collins, N. (2018). *What does it mean to be an agile leader? Having the flexibility to take quick but sure actions.* Available at https://www.forbes.com/sites/forbescoachescouncil/2018/06/29/what-does-it-meanto-be-an-agile-leader/#770a96a44db4 (Accessed on 30.11.2020).

Cooke, F.L. (2012). *Human resource management in China: New trends and practices*. Routledge.

Cormican, K., & O'Sullivan, D. (2004). Auditing best practices for effective product innovation management. *Technovation, 24*, 819–829.

Çiftci, S., & Gündüz, S. N. (2016). Eğitimde inovasyon ve yaratıcılık. Yılmaz, E. Çalışkan, M., & Sula, S.A. (Ed.), *Eğitim bilimlerinden yansımalar* içinde, (pp. 95-104). Çizgi Kitabevi.

David, S. (2016). *Emotional agility: Get unstuck, embrace change and thrive in work and life*. Penguin.

Denning, S. (2018). *The age of agile: How smart companies are transforming the way work gets done*. Anacom.

Demirtaş, H., Üstüner, M., & Özer, N. (2007). Okul yönetiminde karşılaşılan sorunların öğrenci ve okul ile ilgili değişkenler açısından incelenmesi. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi, 51*, 421-455.

Doeze Jager-van Vliet, S. (2017). *Proactive and adaptive agility among employees: The relationship with personal and situational factors.* Proefschrift.

Durna, U., & Tekin, Y. (2012). Otel işletmelerinde yenilik yönetimi uygulamaları Alanya'da beş ve dört yıldızlı otel işletmelerinde bir araştırma. *Uluslararası Alanya İşletme Fakültesi Dergisi, 4*(3), 93-110.

Ekinci, Ö., & Yıldırım, A. (2013). Okul yöneticilerinin yenilik yönetimi yeterliklerine ilişkin yönetici ve öğretmen algıları. *International Symposium on Changes and New Trends in Education, Symposium Proceedings Book Volume I* (pp. 76-84). Necmettin Erbakan Üniversitesi.

Goffin, K., & Pfeiffer, R. (1999). *Innovation management in UK and German manufacturing companies*. Anglo-German Foundation.

Göl, E., & Bülbül, T. (2012). İlköğretim okulu yöneticilerinin yenilik yönetimi yeterliklerine ilişkin öğretmen algıları. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, *8*(2), 97-109.

Görgel, H.M. (2018). *Okul yöneticilerinin yenilik yönetimi yeterliklerine ilişkin öğretmen ve okul yöneticisi algılarını incelenmesi* [Yayınlanmamış Yüksek Lisans Tezi]. Kahramanmaraş Üniversitesi Sosyal Bilimler Enstitüsü, Kahramanmaraş.

Güzen, S.A. (2020). *Liselerde yenilik yönetimi ile örgütsel öğrenme arasındaki ilişki: Şanlıurfa ili örneği* [Yayımlanmamış yüksek lisans tezi]. Harran Üniversitesi, Şanlıurfa.

Hayward, S. (2018). *The agile leadership. How to create an agile business in the digital age*. Kogan Page.

Hillis, W. E. (Ed.). (2014). *Wood extractives and their significance to the pulp and paper industries*. Academic Press: Elsevier.

Horney, N., Pasmore, B., & O'Shea, T. (2010). *Leadership agility: A business imperative for a VUCA World*. Available at https://luxorgroup.fr/coaching/wp-content/uploads/Leadership-agility-model.pdf (Accessed on 20.11.2020).

Joiner, B. (2006). Leadership Agility. *The OD Practitioner. 38*(3), 1-9.

Joiner, B. (2019). Leadership agility for organizational agility. *Journal of Creating Value, 5*(2), 139-149.

Joiner, B., & Josephs, S. (2007). Developing agile leaders. *Industrial and commercial training, 39*(1), 35-42.

Özkan, H.H. (2009). Mesleki teknik eğitimde inovasyon ihtiyacı. *I Uluslararası Türkiye Eğitim Araştırmaları Kongresi,* Çanakkale: Çanakkale Onsekiz Mart Üniversitesi.

Kabakçı, H. (2008). *Eğitimde yenileşme çalışmaları ve öğretmenlerin ilçe milli eğitim müdürlüğü çalışmalarındaki yenileşme ve yeterliklerine yönelik algı ve beklentileri: Kandıra Örneği.* (Yayımlanmamış yüksek lisans tezi). Yeditepe Üniversitesi, İstanbul.

Kamat, V., & Sardessai, S. (2012). Agile practices in higher education: A case study. *Agile India*, 48-55. DOI 10.1109/AgileIndia.2012.10

Karacabey, K. (2013). Sport performance and agility tests Sporda performans ve çeviklik testleri. *Journal of Human Sciences*, *10*(1), 1693-1704.

Karataş, S., Gök, R., & Özçetin, S. (2015). Okul yöneticilerinin yenilik yönetimi yeterliklerine ilişkin öğretmen algıları. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, 33*, 167-185.

Lu, Y., & Ramamurthy, K. (2011). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS Quarterly*, *35*, 931-954. https://doi.org/10.2307/41409967

Luecke, R. (2011). *İş dünyasında yenilik ve yaratıcılık* (T. Parlak, Çev. Ed.). İstanbul: İşbankası Kültür Yayınları.

Marhraoui, M.A., & El Manouar, A. (2017). Comparative review of the main agility assessment methods: A Context-based selection proposal. *Multidisciplinary Academic Conference* (pp. 172-179). Prague.

Mehdibeigi, N., Dehghani, M., & Mohammad Yaghoubi, N. (2016). Customer knowledge management and organization's effectiveness: Explaining the mediator role of organizational agility. *Procedia-Social and Behavioral Sciences*, *230*, 94-103.

Mulhbauer, J.A. (2018). *What does it mean to be an agile leader? Being resilient and creative*. Available at https://www.forbes.com/sites/forbescoachescouncil/2018/06/29/what-does-it-meanto-be-an-agile-leader/#770a96a44db4 (Accessed on 30.11.2020).

Olbrich, E., Bertschinger, N., & Rauh, J. (2015). Information decomposition and synergy. *Entropy, 17*(5), 3501-3517.

Özdemir, N., & Çetin, M. (2019). Çevik liderlik ölçeğinin geliştirilmesine yönelik güvenilirlik ve geçerlilik çalışması: Eğitim örgütleri üzerine bir uygulama. *Research Studıes Anatolıa Journal, 2*(7), 312-332.

Özeroğlu, E. (2019). *Vizyoner liderliğin örgütsel çeviklik üzerine etkisi; İstanbul ili Beylikdüzü ilçesinde özel hastanelerde bir uygulama* [Yayınlanmış yüksek lisans tezi]. İstanbul Gelişim Üniversitesi, İstanbul.

Özler, D. E., Atalay, C.G., & Şahin, M. D. (2010). Örgütlerde Sinizm Güvensizlikle mi Bulaşır?. *Organizasyon ve Yönetim Bilimleri Dergisi*, *2*(2), 47-57.

Rigby, D. K., Sutherland, J. & Noble, A. (2018). Çevik çalışmayı ölçeklendirmek. Harvard Business Review Available at https://hbrturkiye.com/dergi/cevik-calismayi-olceklendirmek (Accessed on 30.11.2020).

Sharifi, H., & Zhang, Z. (1999). A methodology for achieving agility in manufacturing organisations: An introduction. *International journal of production economics*, *62*(1-2), 7-22.

Sharp, J. M., Irani, Z., & Desai, S. (1999). Working towards agile manufacturing in the UK industry. *International Journal of Production Economics. 62.1*(2), 155-169.

Sheridan, J.H. (1993). Agile manufacturing: stepping beyond lean production. *Industry week*, *242*(8), 30-46.

Smith, M., Busi, M., Ball, P., & Van der Meer, R. (2008). Factors influencing an organization's ability to manage innovation: A structured literature review and conceptual model. *International Journal of Innovation Management, 12*(4), 655-676.

Şahbaz, A. (2017). İnovasyon ve girişimcilik kavramlarının karşılıklı etkileşimi. *Girişimcilik İnovasyon ve Pazarlama Araştırmaları Dergisi*, *1*(1), 20-38.

Tanrıverdi, H., & Alkan, M. (2018) Analyzing of the relationships among entrepreneurs' entrepreneurship, innovation, innovative thinking and level of innovative entrepreneurship. *Journal of Current Researches on Business and Economics, 8*(1), 1-26, DOI: 10.26579/jocrebe-8.1.1

TDK (2021). *Yazım kılavuzu*. İstanbul: Ema Kitap Yayıncılık.

Tidd, J., Bessant, J., & Pavitt, K. (2005) *Managing innovation: Integrating technological, market and organizational change*. Chichester: John Wiley and Sons Ltd.

Watt, D. (2002). H*ow innovation occurs in high schools within the network of innovative schools: The four pillars of innovation research project*. Available at http://www.bishops.k12.nf.ca/poster2004/fourpillars.pdf (Accessed on 20.11.2020).

Wendler, R. (2013). The Structure of Agility from Different Perspectives. *In 2013 Federated Conference on Computer Science and Information Systems* (pp. 1165–1172). Poland.