The development of a scale to measure the influence that school administrators have on the adaptation of newly appointed teachers in Turkey

Mehmet Emin Usta iD
Department of Education Sciences, Faculty of Education, Sakarya University, Sakarya, Turkey
mehmeteminusta3@gmail.com

In Turkey, teacher appointment is made centrally by the Ministry of National Education and is made without considering where the teachers want to work. Many teachers are assigned to places very different from the cultural environments in which they grew up resulting in them encountering very different school types and administrator habits. The negative situations encountered affect the motivation of newly appointed teachers and weaken their organisational commitment. The draft scale was created with a pool of questions obtained as a result of examining the legal texts and similar studies on the subject. This draft scale includes 28 items and was developed for the adaptation of new appointed teachers to the profession. The rotated principal component analysis was used to test the construct validity of the scale. As a result of the analysis, the Kaiser-Meyer-Olkin (KMO) value was determined as 0.949, while the Bartlett test was found to be significant. The analysis showed that 2 of the 28 items were loaded on more than 1 factor and as their load values were low, the 2 items were removed from the scale. The remaining 26 items formed a 3-factor structure with an eigenvalue higher than 1.00. Factor 1 of the scale is called "Compliance with the profession"; Factor 2 "Environmental compliance" and Factor 3 "Compliance with school." While Factor 1 with an eigenvalue of 5.86 explained 22.55% of the total variance, Factor 2, with an eigenvalue of 4.97 explained 19.13% of the total variance. Factor 3, with an eigenvalue of 4.71 explained 18.11% of the total variance. The alpha reliability coefficient of the composite scale was found to be .955. Internal consistency coefficients of the factors of the scale were .91 for all 3 factors.

Keywords: beginning teachers; candidate teachers; job adaptation; newly appointed teachers; prospective teachers; school administrator

Introduction

Problems regarding teacher adaptation can be viewed from two perspectives. The first is from the point of view of school administrators. The second is from the perspective of newly appointed teachers. School administrators state that teachers have serious problems in their relations with the environment (Aslanargun & Bozkurt, 2012) and newly appointed teachers are unaware of how the school culture is and school administration works (Bayar & Topal, 2020).

Sari and Altun (2015) state that newly appointed teachers struggle to communicate with many people, especially with their students, because they are not given good guidance and they do not know how to motivate students. In fact, some teachers either change schools or quit teaching (Kozikoğlu & Senemoğlu, 2018). According to Gulay and Altun (2017) most new teachers state that they do not know enough about implementing the training programme due to theory-based pre-service education. The pre-service teacher preparation programmes in Turkey are based mostly on theory and student teachers do not have sufficient practical experience.

The most important element in the education process is the teacher. It is fair to say that the quality of teachers and the quality of the education system are directly related to one another. Thus, more investments in schools, classrooms, and technology should be aimed at teachers. Teacher and student development should run parallel. There are two aspects to the teacher candidacy process. Firstly, novice teachers make many mistakes because they are not experienced enough. Secondly, newly appointed teachers are in the most idealistic period of their lives. Thus, it is extremely important to provide teachers with the necessary assistance and guidance to protect their idealism and minimise mistakes due to inexperience.

In Turkey, the training of teachers during the candidacy process involves a two-way application. The first is the guidance that a school principal should give to newly appointed candidate teachers at a school. The second is the guidance that experienced teachers, who are appointed by school principals, should provide candidate teachers. These are both pedagogical requirements and legal obligations.

One of the most important tasks expected from teachers is academic success. However, newly appointed teachers are not always successful in these tasks, therefore, they need focused guidance (Ozdas, 2019) from more senior teachers (Bozak, Yıldırım & Demirtaş, 2011). School principals are in constant contact with teachers, students, parents, the education system, and the school environment. Therefore, one can say that managers are versatile. Administrators' versatile knowledge should be conveyed to prospective teachers (Usta & Ozmusul, 2017).

A Brief History of Teacher Education in Turkey
It can be said that professional teacher training activities in Turkey only started in the 19th century. Before that, teachers were trained as religious officials in mosques (*madrasah* or place of study), funded by parents in a process

called *cerr*. The *cerr* process was abolished by Ahmet Cevdet Pasha in 1848 (Akyüz, 2013) because fundraising was thought to damage teachers' reputation.

The first institution to train teachers in the modern sense of the word was Dar'ul Muallimin, which was opened for training male teachers in 1848 while Dar'ul Muallimat was opened for training female teachers in 1870 (Akyüz, 2013). After the proclamation of the Republic in 1924, these schools were named "Yüksek Muallim Mektebi." In 1926, "Gazi Orta Muallim Mektebi" was established in Konya to meet the needs of secondary school teachers and was moved to Ankara in 1927 (Ergün, 1987).

In 1936, a method called "Prussia" was adopted according to which people who had served in military service were assigned to field-specific training and appointed as teachers. Through this method, 8,675 teachers were trained until 1946 (Ergün, 1987). To meet the teacher needs of villages, village institutes were established in 1940. At these schools, which were closed in 1945, nearly 16,400 teachers were trained (Millî Eğitim Bakanliği, n.d.).

In 1974 Higher Teachers' Institutes, equivalent to 3-year bachelor's degrees were established. In 1982, with the restructuring of higher education, faculties of education were established where 4-year teachers training courses were presented. According to YOK (Council of Higher Education, 2023) data, totally 101 faculties of education and faculty of educational sciences existed in 2022 where candidate teachers were trained for the profession.

In addition to the teachers who graduated from faculties of education, since 2017 other faculty graduates were also trained and appointed as teachers under the auspices of the faculties of education. Graduates from science, literature, theology, agriculture, and economics faculties can also be appointed as teachers once they have completed a 10-course pedagogical formation training certificate under the auspices of faculties of education. These teachers are usually appointed to secondary schools.

Furthermore, teachers may also be appointed as substitute teachers in instances where permanent teachers are on long-term leave or absent due to health reasons.

Candidate teachers follow various processes to gain practical experience. Although it varies according to the branch, (e.g. mathematics, science, etc.) students from a faculty of education generally receive teaching practice training for 6 hours per week for one semester. For some branches this training is presented for two terms. Furthermore, students also receive 4 hours' of school experience training to observe teachers for 4 hours per week. Practical training can be done at kindergarten, primary school or secondary school according to the candidate's branch of study.

After or during graduation from a 4-year course at university, students have the right to apply to the Ministry of National Education to become a teacher. However, these candidates must first achieve a high grade in a general examination for civil servants, then achieve a high grade in an exam for teachers, and finally, achieve a high grade in an educational sciences examination. Once they have passed all these examinations, they are allowed to the teacher recruitment quota announced by the Ministry of National Education according to the points they receive. According to their rank, the Ministry of National Education invites three times the number of quotas they need for oral interviews. If the grade obtained here is 60 and above, the candidate is considered successful and appointed as a teacher. Teachers can be assigned to a school in a province of their choice in Turkey according to the teacher needs in that province, or they can be assigned to schools in any province by Turkey's Ministry of Education.

How the problems that teachers face following their appointment are resolved, is extremely important as first impressions about a profession may lead to generalisations that can last a lifetime. For this reason, the leadership role of school principals is extremely important. According to Bozak, Özdemir and Seraslan (2016), if school principals demonstrate effective leadership skills, newly appointed teacher candidates will gain important experiences and knowledge from them that they will remember for the rest of their lives.

School Leadership

One of the important factors for the efficiency of schools is the leadership style of school administrators. The school administrators' leadership style determines the school's identity. For example, a democratic leadership style will result in the school also being democratic. The most important feature of school leadership is developing commitment to the school by the teachers (Balay, 2000). According to Gardner (1990:7), leadership is "the process of persuading an individual, a group, to follow a path determined by the leader or the leader and his/her followers." The school leader is an important figure for all individuals, especially teachers and students – the person who creates new ways to solve problems and thus creates a natural effect (Marzano, Waters & McNulty, 2005). According to Steingraber (1999), leadership is the skill of transforming the unknown into the known for employees – to guide subordinates and to take risks at the right time and in the right place. Leadership is when the leader removes the uncertainty about the unknown. A leader is the person who pursues innovation above imitation under all circumstances. A leader is someone who knows how to pursue flexible goals by looking ahead and motivating himself/herself and his/her

followers. Furthermore, leadership should not be a barbaric and aggressive exploitation of subordinates. Leaders should not have a Machiavellian attitude in trying to achieve their own goals in any way possible (Haas & Tamarkin, 2000).

In this context, school leadership can be regarded an effect. In the absence of this effect or if this effect is weak, teachers' and students' success will decrease (Naidoo, 2019). Like any other leadership, school leadership is the ability to motivate and lead people (Maxwell, 1998). However, when it comes to school management, school leadership determines school success (Bush & Jackson, 2002). One of the most important factors of strong leadership is the leader and organization's social and intellectual capital.

This capital is directly related to the organisational commitment of newly appointed teachers to the school, therefore, school administrators' leadership roles should provide newly appointed teachers with suitable guidance.

School administrators' leadership roles in the socialisation process are ethical leadership, instructional leadership, transformational leadership, and cultural leadership (Celik, 2007). School principals exercise their legal authority while running the school. However, for the school administrator to be effective, besides legal authority, he/she also needs the ability to use social, technical, cultural, and symbolic forces to develop the school and gain the respect of his/her subordinates. The most important thing that distinguishes a manager from a leader is the leader's power to influence people and gather them around a certain goal (Ezzani, 2014).

What is Prospective Teaching?

The first 2 years after being appointed as a teacher is the period of candidacy in accordance with the provision of the Civil Servants Law No. 657: "The period of the nomination of a civil servant appointed as a candidate cannot be less than one year and more than two years." If the candidate teacher commits a serious crime during this period or does not perform the roles expected of him/her, he/she may be dismissed from the profession. For this reason, prospective teachers undergo rigorous training on different subjects during this period. Those who then successfully pass the subsequent exam and fulfil their expected roles are appointed as permanent teachers (Devlet memurları kanunu [1][2][3]. Kanun numarası: 657, 1965).

This training programme is called basic education, and includes content applicable to all civil servants. Thereafter, teachers follow the preparatory education programme that only applies to the teaching profession. Once teacher candidates successfully pass the subsequent examination they are appointed as permanent teachers.

The third aspect of candidate teacher training is on-the-job training at schools (Cimen, 2010). School administrators play important roles here. Newly appointed teacher candidates may not know the culture of the city or school he/she came to serve. They might not know the electronic modules used, the school culture, regulations regarding wages, correspondence, some official forms, et cetera. It is, therefore, extremely important that the school leadership guides candidate teachers in all this. According to Villani (2002), no matter how educated teachers are, they need the guidance of teachers who are more experienced than them during their first years of employment.

Research reveals differences in the attitudes of teachers before and after being appointed in the profession (Ayvaz Düzyol, 2012; Celep, 2000). Thus, planned and effective teacher training during the candidacy process is important as it will affect the teacher's entire professional life. According to Erkoc (2010), the main purpose of candidate training is to ensure the employee's adaptation to the job and increased success and productivity at work. Other objectives of candidate training are ensuring the employee's trust in him/herself and the institution where he/she works, increased loyalty to the institution, accelerating adaptation to the job and the institution, and increasing employees' motivation towards the job by making them feel part of the organisation. By providing prospective teachers with the required guidance, explaining the job to be done, the conditions, authority and responsibilities of the candidate teacher in detail, the initial anxiety and stress of the new job will be limited (Botha & Rens, 2018).

Marable and Raimondi (2007) state that teachers need the support from various sources throughout their lives as many newly appointed teachers may give up in the face of adversity, despite their idealism. The difficulties that these teachers face in the classroom directly affect their sense of success, and may, without proper guidance and direction, result in them leaving the profession (Kardos & Johnson, 2010; Usta & Ozmusul, 2017).

Table 1 The support that teachers need in the first year of their profession (adapted from Marable & Raimondi, 2007)

The support that managers should give	• Provide direct support with observation, feedback, and written material. • Maintain visibility and contact. • Hold separate meetings for new teachers. • Maintain privacy. • Offer individual level of ongoing support. • Be supportive and willing to listen. • Be encouraging. • Plan meetings for the mentors and new teachers. • Provide clear expectations regarding roles and responsibilities. • Identify the correct channels for solving problems. • Allow extra start time at the beginning of the school year.
Mentors	• Have a relevant certificate. • Maintain privacy. • Do not be judgmental. • Be supportive and willing to listen. • Be flexible when it is needed. • Make more formal visits on a weekly or similar fixed schedule. • Offer frequent meetings. • Be willing to share ideas, materials, and resolve possible mistrust in this regard. • Serve as the demonstration teacher.
Colleagues	• Create new teacher focus groups. • Include sophomore and senior teachers in focus groups. • Arrange classroom visits in and outside the district. • Take time to meet with colleagues.
Education	• Provide special education support for newly appointed teachers. • Inform about policies and procedures. • Developing an in-service education programme (IEP) (on-the-job training). • Include organisational skills/strategies in training. • Provide classroom management skills. • Offer specific skills and knowledge about teacher needs. • Participate in curriculum development studies. • Give time to think about training.
References	• Provide a basic starter kit of classroom materials. • Provide appropriate technology. • Provide a handbook of policies and procedures for new teachers. • Provide a lending library for new teachers. • Provide internet access.

From Table 1 it is clear that the adaptation of prospective teachers to the profession requires a collective effort of support from school administrators, mentors, and colleagues (Cuddapah & Clayton, 2011; Wang, Odell & Schwille, 2008).

The most comprehensive legal document regarding candidate teachers' training is the *Directive on the Training Process for Candidate Teachers*, published by the Ministry of Education (Millî Eğitim Bakanlığı Tebliğler Dergisi, 2016). According to this directive, a prospective teacher is one who recently took office. According to this document, novice teachers undergo a training period in the first 6 months of their candidacy. The training process is carried out in the school where prospective teachers are appointed according to the education programme determined by the Ministry of National Education under the auspices of the school administrators and guidance teachers. Newly appointed prospective teachers participate in the classroom, in-school and out-of-school activities and attend in-service training activities within the scope of this training programme.

It is imperative that the school administrator appoints an advisor to train and support each prospective teacher. These advisors should have at least 10 years' experience as consultants or guidance counsellor. If teachers have been coordinators, consultants, or participants in national or international projects, they have preference as advisors. So do teachers who participate in social and cultural studies (theatre, poetry activities, school newspaper and magazine, out-of-school trips, sports competitions, etc.), are able to represent colleagues and have strong communication skills.

The duties of advisory teachers are as follows: during the training phase the new teacher must prepare the work programme together with the

school administrator. The advisor should monitor, evaluate and guide the prospective teachers to train them in accordance with the determined training programmes. Counsellor teachers should set the example regarding professional behaviour and must convey their skills and experiences to new teachers. Furthermore, they should carry out any other duties assigned to them by the administrator of the educational institution. Advisory teachers are obliged to keep the principal informed about the execution of the tasks assigned to them.

Prospective teachers also have a number of responsibilities. They need to participate in the activities of the education programme prepared for them. They are obliged to follow the orders of the advisory teacher and the school administrator in accordance with legislation of the Ministry of National Education.

Teachers who successfully complete the process as prescribed in the *Regulation on the Training of Candidate Civil Servants*, take a written exam that consists of multiple-choice or open-ended questions. Topics included in this exam are planning of education, learning environments, classroom management, teaching methods and techniques, and measurement and evaluation (Yürütme ve Idare Bölümü, 1983).

Following the written exam, prospective teachers complete an oral exam with the Ministry. In the oral exam, the candidates are evaluated on 25 points by the members of the commission. Subjects tested are the ability to understand and briefly explain a subject, reasoning ability, communication, self-confidence, the ability to persuade others, the degree of awareness of scientific and technological changes, openness to innovation, public speaking, teaching qualities, et cetera (Yürütme ve Idare Bölümü, 1983).

With this research we aimed to reveal teacher qualities and to develop suggestions regarding the effects of school administrators on teachers appointed to their schools during the period of first appointment. When the above information is considered as a whole, it is understood that teachers should receive orientation training in three areas from school administrators, namely, adaptation to the profession, compliance with the school, and the environment in which the school is located. The execution of these processes and the healthy realisation of the orientation process are directly related to the initiative and planning taken by school administrators. The probability of candidate teachers leaving the professions after having received good orientation training is small. It can be assumed that prospective teachers' job satisfaction, socialisation, and communication with students, parents, and other teachers will increase as a result.

Three Dimensions of Adaptation to Work
The dimensions of the teacher's adaptation to the job are presented in Figure 1.
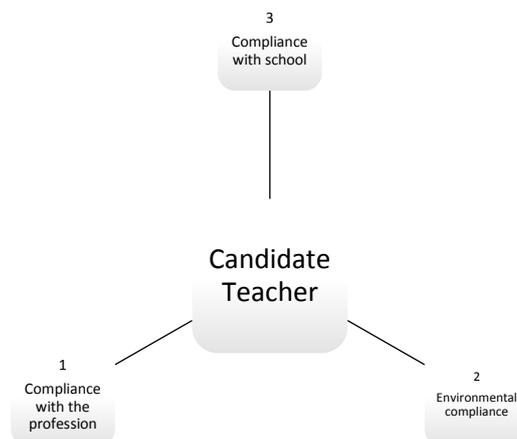
Figure 1 Three dimensions of adoption

Compliance with the profession
In this dimension, the following roles are expected from school administrators: candidate teachers' personal/salary rights, legal regulations, lesson performance, school bureaucracy, education programmes to be followed during the candidacy process, inspections to be carried out in the school, decision mechanisms, team spirit, professional deficiencies, communication, and informing teachers about the electronic modules or systems used in the school.

Environmental compliance
This dimension includes the teachers' refuge places, the socioeconomic status of the city, village, or region to be served, the ethnic, religious, and

sectarian structure of the region, the parent profile of the school, the means of transportation to the school and the educational opportunities of the region. This dimension is also important in geographically large countries. As a country develops, cultural differences may increase.

Compliance with the school
The following roles are expected from school administrators in this dimension. The school principal is to show the prospective teachers around the school and inform them about the facilities at the school. It is necessary to arrange activities for new teachers to meet the other staff members, to provide them with information about the students or classes to be assigned to them, and to inform them about correspondence and communication processes at the school. A counsellor should also be appointed to facilitate the adaptation of the prospective teacher to the school (Carver & Katz, 2004). The prospective teacher should be informed about the history of the school and special events in the past.

When the above three dimensions are considered together, it can be concluded that teachers' first years in the profession are extremely important, as inexperienced teachers can make many mistakes in the profession, school and environment. These mistakes can be reduced by means of effective leadership.

Some studies also address teachers' professional adaptation with regard to identity (Ruohotie-Lyhty, 2013). According to these studies the development of professional identity occurs in the early years of the profession and should be understood as the way in which individuals make sense of themselves in relation to contexts and other people (Jackson, 2016; Sweitzer, 2009; Trede, Macklin & Bridges, 2012).

Purpose of the Study
School administrators' assistance for teachers who are just starting the teaching profession is extremely important in terms of both the general staff regime and education quality. According to 2020 statistics, the number of teachers working in the Ministry of Education in Turkey was 1,117,686 (Millî Eğitim Bakanliği, n.d.). New teacher appointments are made every year depending on the increase in student numbers (Millî Eğitim Bakanliği, n.d.) For example, 30,000 teachers were appointed in February 2016, 15,000 in August 2016, 20,127 in March 2017 and 19,910 in June 2020 (Atama Sonuç Ekranı, 2019).

Considering the data above one understands how important the orientation of prospective teachers is. Teaching requires experience based on practice and theoretical knowledge. Practical experience is a field with artistic, social and leadership dimensions. For this reason, the candidacy process should be a programme based on practice and should provide as much experience and skills as possible (Ekinci, 2010). Therefore, the candidacy process should be planned very well, because prospective teachers generalise their observations in the first year of their teaching and apply this knowledge in the rest of their professional lives.

Why is this issue important? Firstly, Turkey is a large country of 783,562 km^2 with many different cultures. Most of the newly appointed teachers arrive in the regions where they are appointed for the very first time, as most of the teachers are assigned to rural area or to cities far from their birthplace. As a result, many of them may experience problems adapting to the new environment. Secondly, adjustment reduces the organisational and professional commitment of newly appointed teachers. Additionally, the majority of newly assigned teachers do not have mentors assigned to help them to adapt to the teaching profession and school climate, which may result in various problems. We trust that with this study we will contribute to the solution of some of these problems.

With this study we aimed to develop a quantitative measurement instrument to measure the effect that school administrators have on the adaptation of prospective teachers based on their own opinions.

Method
This section contains information about the research model, data collection and analysis, study group, and data collection tools used in this research.

Research Model
The descriptive survey model, one of the quantitative research methods, was used in this study. The survey model is a research model that aims to reveal a situation as it is (Karasar, 1999). Quantitative research is the process of digitising, describing, and analysing facts or situations (Goertzen, 2017).

Population and Sample
The random sampling technique was used in the selection of the sample (Balci, 2006:85; Karasar, 1999:113–114). This method was chosen because the entire population had the same properties. The population of the study was 3,058 teachers. For this reason 395 novice teachers were selected as sample of the research. The numbers of the draft scales (questionnaires) prepared for the study are shown in Table 2 in the form of outgoing and returning.

Table 2 Outgoing and returning scale draft numbers

Outgoing draft scale numbers	Number of incorrectly completed draft scales	Final number of draft scales
400	5	395

Balci (2006:91–95) asserts that, with a 5% margin of error, at least 353 individuals can be chosen as samples from this population. The researcher should recruit at least 353 participants, which is the size of the sample group. The sample to be contacted was increased by 15% to allow for scales not being returned, not being completed, or being completed incorrectly.

Data Collection Tools

Since this research was a scale development study, after the literature review and the examination of the legal texts, a draft measurement tool consisting of an items pool was developed. An assessment and evaluation field expert was consulted regarding the analysis of the scale. The participants were asked to express their opinions about given propositions by choosing one of the options on a 5-point Likert scale varying from very positive to very negative. The lowest score available from the scale is 26, and the highest score could be 130. A value closer to 26 indicates a low level of adaptation whereas a value closer to 130 indicates a high level of adaptation to the profession. The graded scale score ranges are as follows: (5) totally agree (5.00–4.20), (4) strongly agree (4.19–3.40), (3) moderately agree (3.39–2.60), (2) slightly agree (2.59–1.80), (1) strongly disagree (1.79–.00). Scale results are distributed over a width of 5.00 to 1.00 = 4.00 points. The levels that determine the cutting points of the scale were determined by dividing this width by five (4/5 = 80).

Findings

Findings Regarding Factor Analysis

The rotated principal component analysis was used to test the construct validity of the scale. As a result

of the analysis, the KMO value was determined as 0.949, while the Bartlett test was found to be significant ($\chi^2 = 6981,273$; $SD = 325$; $p < .05$). In line with the data, exploratory factor analysis (EFA) was applied to the scale. As a result of the analysis two of the 28 items (11 and 19) were loaded more than one factor (with a difference of less than 0.1) and the item total correlation was less than 0.30. The two items were removed from the scale. The remaining 26 items formed a 3-factor structure with an eigenvalue greater than 1.00. According to EFA results, the distribution of 26 items by factors is shown in Table 3.

Table 3 Distribution of items by factors

Factor number	Factor name	Item numbers
Factor 1	Compliance with the profession	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18
Factor 2	Compliance with school	20, 21, 22, 23, 24, 25, 26, 27, 28
Factor 3	Environmental compliance	1, 2, 3, 4, 5, 6

Factor 1, Compliance with the profession, consists of items 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18. Factor 3, Environmental compliance, consists of items 1, 2, 3, 4, 5, and 6. Factor 2, Compliance with school, consists of items 20, 21, 22, 23, 24, 25, 26, 27, and 28. Values related to the EFA results are presented in Table 4.

Table 4 EFA results regarding the factors and items in the scale

Factor 1 Compliance with the profession Eigenvalue: 5.86; Variance: 22.55					Factor 2 Compliance with school Eigenvalue: 4.97; Variance: 19.13					Factor 3 Environmental compliance Eigenvalue: 4.71; Variance: 18.11				
IN	FL	CV	$\bar{X}$	SD	IN	FL	CV	$\bar{X}$	SD	IN	FL	CV	$\bar{X}$	SD
8	.732	.641	2.09	1.06	2	.865	.812	2.52	1.20	27	.695	.757	2.38	1.11
13	.701	.607	2.47	1.24	3	.837	.779	2.51	1.17	26	.690	.641	2.29	1.11
7	.700	.616	1.98	1.05	4	.775	.702	2.69	1.19	21	.665	.592	2.07	1.16
10	.684	.557	2.81	1.26	6	.750	.718	2.55	1.17	24	.656	.700	2.33	1.10
12	.670	.517	2.67	1.17	5	.737	.671	2.81	1.31	28	.596	.535	2.55	1.16
16	.641	.582	2.5	1.13	1	.561	.441	2.06	1.22	25	.593	.387	2.53	1.37
17	.626	.619	2.65	1.23						23	.592	.617	2.18	1.11
9	.565	.407	2.56	1.31						22	.587	.610	2.36	1.22
14	.565	.528	2.81	1.25						20	.551	.589	2.41	1.28
15	.540	.503	3.02	1.28										
18	.498	.414	3.02	1.22										

Note. IN: Item number; FL: Factor load; CV: Common variance; X = Arithmetic average; SD: Standard deviation.

In line with the information presented in Table 4, a 3-factor structure with an eigenvalue greater than 1.00 in the scale was obtained. FLs for the items vary between .498 and .865. It was observed that the percentage of total variance explained for the scale was 59.78 and the CVs varied between .407 and .812. Factor 1, with an eigenvalue

of 5.86, explains 22.55% of the total variance. Factor 2, with an eigenvalue of 4.97, explains 19.13%, and Factor 3, with an eigenvalue of 4.71, explains 18.11%. The contributions of the factors in explaining the total variance are presented in a scree plot (cf. Figure 2).
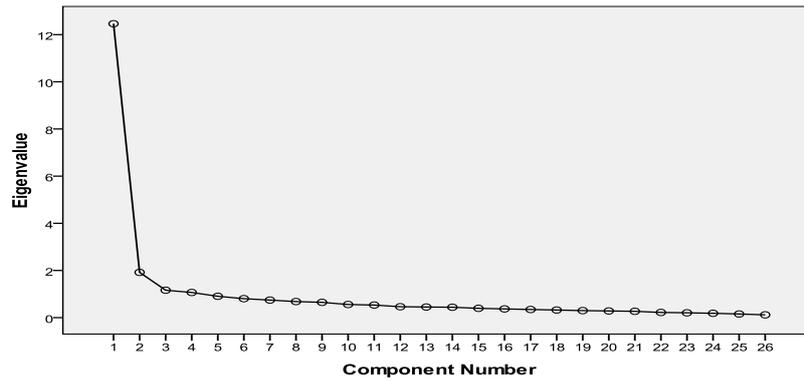
Figure 2 Scree plot

Upon examining the scree plot, it becomes apparent that the contribution of additional factors to the overall percentage of variance diminishes substantially after the first factor. This observation suggests the possibility of employing the scale as a unifactorial measure. However, since the scale is encompassed by three factors exhibiting eigenvalues greater than 1, it was advisable to adopt a 3-factor structure.

Reliability and Item Analysis

The internal consistency coefficients of the scale were calculated on the basis of total and factors, and in the analysis, the alpha reliability coefficient of the whole scale was found to be .955. Internal consistency coefficients for each factor of the scale are presented in Table 5.

Table 5 Cronbach Alpha internal consistency coefficients regarding factors

Factor number	Factor name	Alfa (r)
Factor 1	Compliance with the profession	.91
Factor 2	Compliance with school	.91
Factor 3	Environmental compliance	.91

In Table 5, the internal consistency coefficients for the factors of the scale were found to be .91 for all three factors. The factor analysis results of the scale used in a study conducted by Ekinci on the adjustment of novice teachers to the profession was found to be .96. Also, in a scale development study conducted by Özdemir (2003), the total alpha reliability coefficient of the scale was found to be .98. However, this scale was 2-dimensional. In the study conducted by Saylık and Hazar (2021), it was revealed that school administrators had a great influence on the adaptation of novice teachers to the environment. In this study, candidate teachers drew attention to two skills of school administrators, namely, communication and socialisation.

According to this research, the high level of communication and socialisation of school administrators facilitates the adaptation of novice teachers to the environment. The findings in our study are similar to the findings of Saylık and Hazar (2021). In another study on the orientation of novice teachers to the profession, it was concluded that there were three dimensions, namely, in-class and in-school activities, out-of-school activities and in-service training practices (Özen, Kiliçoğlu & Yilmaz Kiliçoğlu, 2019). The first two dimensions are similar to the dimensions of adaptation to the environment and adaptation to school in our study. The remaining item statistics for the scale are presented in Table 6.

Table 6 Item statistics for the whole of the scale

IN	Average	Variance	ITC	Alfa
1	62.91	424.5	0.57	0.95
2	62.46	421.44	0.65	0.95
3	62.47	422.11	0.65	0.95
4	62.29	421.20	0.65	0.95
5	62.16	417.98	0.65	0.95
6	62.42	419.93	0.70	0.95
7	62.98	423.70	0.69	0.95
8	62.88	423.63	0.68	0.95
9	62.41	423.21	0.55	0.95
10	62.15	420.71	0.63	0.95
12	62.30	424.77	0.59	0.95
13	62.49	418.92	0.67	0.95
14	62.15	418.48	0.68	0.95
15	61.95	418.98	0.65	0.95
16	62.46	421.04	0.70	0.95
17	62.32	416.20	0.74	0.95
18	61.94	424.78	0.57	0.95
20	62.55	415.41	0.72	0.95
21	62.91	422.01	0.66	0.95
22	62.60	417.07	0.72	0.95
23	62.79	421.08	0.70	0.95
24	62.64	419.05	0.76	0.95
25	62.45	429.45	0.41	0.96
26	62.68	422.59	0.68	0.95
27	62.59	417.50	0.79	0.95
28	62.41	422.19	0.65	0.95

From Table 6 it is clear that item-total correlations (ITC) for all items varied between .41 and .79. Since the internal consistency coefficient of the scale did not increase for any item when two items were removed, no items were omitted from this section.

Pearson's correlation coefficient was used to reveal the relationship between the factors. Accordingly, a correlation coefficient of 1.00 indicates a perfect positive relationship; -1.00, a perfect negative relationship; and a value of 0.00 indicates no relationship. A correlation coefficient, as absolute value between 0.70 and 1.00 indicates a high relationship; between 0.70 and 0.30 as a medium relationship and between 0.30 and 0.00 as a low relationship (Büyüköztürk, 2014).

The scale developed to determine the effect of school administrators on the adaptation of candidate teachers to the work environment, is 3-dimensional. The correlation results between the factors of the scale are shown in Table 7.

Table 7 Correlation results between factors

		Factor 1	Factor 2	Factor 3
Factor 1	Pearson correlation	1	.38*	.799*
	Sig. (2-tailed)		.000	.000
	N	393	391	393
Factor 2	Pearson correlation	.638*	1	.663*
	Sig. (2-tailed)	.000		.000
	N	391	393	393
Factor 3	Pearson correlation	.799*	.663*	1
	Sig. (2-tailed)	.000	.000	
	N	393	393	395

Note. *Significant value ($p > 0.05$).

Looking at Table 7, it is possible to say that there is a significant positive relationship between all three dimensions that make up the scale. In other words, while the value of one of the factors increases, the value of the other increases.

Discussion
The fertility rate in Turkey is very high and most of the population are young people. For this reason, new schools are built every year and thousands of new teachers are appointed as a result, but quite a number of teachers also retire every year. For example, in 2012 8,800 teachers retired, 7,877 in 2013, 7,975 in 2014, and 10,988 in 2015 and 13,317 in 2017. Due to the increase in the population and

the number of teachers leaving the profession for whatever reason, there is a serious shortage of teachers every year (Öğretmen Gündem, 2021). Despite the high number of teachers waiting to be appointed, appointments are not made due to economic reasons and an inability to pay the teachers' salaries.

To address the shortage of teachers, the Turkish Ministry of Education appoints thousands of teachers every year. For example, 62,000 teachers were appointed in 2011, 52,000 in 2016 and 41,379 in 2019 (Atama Sonuç Ekranı, 2019).

The high number of teachers appointed necessitates a teacher orientation programme (Gratch, 1998; Ozdas, 2019). According to Botha

and Rens (2018), adaptation programmes that reduce teachers' stress and anxiety must be supported by school administrators.

In research conducted by Kwok and Cain (2021) and Wang et al. (2008), it was found that school administrators and mentors had a great effect on teachers' adaptation to work. Nhlapo (2020) emphasises that the leadership role of school administrators is not limited to human relations but also extends to the efficient use of school facilities.

Ekinci (2010) states that school administrators should undergo good mentoring training in order to be able to provide novice teachers with good guidance. It is known that school principals are experienced in relation to the environment. In a qualitative study by Gunbey and Yilmaz (2021) it was revealed that novice teachers' adaptation to the environment constitutes an important orientation area for novice teachers.

Based on the above findings and discussion, we make the following recommendations:

- School administrators should be trained to provided novice teachers with good mentoring.
- An environmental adaptation course could be included in the prospective teacher's pre-service training programme.
- Newly appointed teachers can attend a course with guidance counsellors for a certain period of time.
- As Turkey is a large country with many different religions, ethnicities, and cultures, booklets can be prepared through which local cultures and the scope of environmental adaptation could be explained to novice teachers.
- Qualitative interviews can be conducted to reveal the problems experienced by newly appointed teachers.
- Mentoring is an effective approach to help novice teachers to adopt to the profession. Experienced and qualified mentors should be assigned to guide novice teachers during their apprenticeship.

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Appendix A: Draft Scale

THE EFFECT OF SCHOOL MANAGERS ON THE PROSPECTIVE TEACHERS' ADAPTATION TO THE PROFESSION My school/institution administrators	Appropriacy				
	Strongly disagree	Slightly agree	Moderately agree	Strongly agree	Totally agree
1) They supported me in terms of accommodation.					
2) They gave information about the socio-economic status of the city/village where I will work.					
3) They gave sufficient information about the ethnic, religious, and sectarian structure of the city where I will work.					
4) They gave enough information about my school's parent profile.					
5) They gave sufficient information about the means of transportation to the school.					
6) They informed me about the educational opportunities offered by the city/village where I will be working.					
7) They informed me adequately about my personal/monthly rights.					
8) They informed me sufficiently about legal regulations.					
9) They visited my lesson and informed me about my performance.					
10) They enlightened me on what documents I should prepare.					
11) They informed me sufficiently about the health opportunities offered by my institution. **(This item has been omitted.)**					
12) They gave me enough information about basic, preparatory, and applied training.					
13) They informed me adequately about the supervision of the inspectors who will come to the school.					
14) They applied to my opinion on matters that concern me.					
15) They perceived me as a member of a team.					
16) They informed me about my professional deficiencies.					
17) They encouraged me to communicate with my students and other stakeholders.					
18) They informed me about e-school, Mebbis-like modules that I should use at school.					
19) They introduced me to my other colleagues working at the school. **(This item has been omitted.)**					
20) They showed me around the school enough.					
21) They organised enough social activities to socialise with all the staff in the school.					
22) They informed me about the course/class I will lecture.					
23) They gave me information about the correspondence at the school.					
24) They informed me about in-school communication.					
25) The assigned guidance counsellor helped me sufficiently in professional matters.					
26) They informed me about the history of the school and special events in the past.					
27) They informed me about the opportunities offered by the school.					
28) They tried to meet the needs of my school/classroom.					