



## EXAMINING THE VARIABLES PREDICTING ATTITUDES TOWARDS TEACHING PROFESSION OF PRESERVICE CLASSROOM TEACHERS

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**Abstract:** This research is conducted to find out whether the attitudes of preservice classroom teachers towards mother tongue, life science, mathematics and science teachings predict their attitudes towards teaching profession or not. Research is conducted in pursuant of relational survey model, which a nonempirical design is belonging to the quantitative research approaches. The sample of the research is comprised of 231 senior class students who are educated in four different state universities on classroom teaching program. Data is collected by using attitude scale towards teaching profession, attitude scale towards Turkish/Turkish language and literature teaching, life science teaching attitude scale, mathematics teaching attitude scale and the attitude scale of science teaching for classroom teachers. By the research it is found out that the attitudes of mother tongue, life science, mathematics and science has a medium-level and meaningful relation with attitudes toward teaching profession. By paying regard to relative importance level, it is concluded that attitudes towards mother tongue, life science, mathematics and science teaching respectively are the significant predictors for attitudes toward teaching profession.

**Keywords:** Preservice classroom teachers, attitudes toward teaching profession, attitudes toward teaching basic courses, classroom teaching, teacher training.

### 1. Introduction

Attitude expresses values and positive-negative reactions of humans giving to other persons, situations, opinions or the objects being in their environments depending on his or her beliefs and certain value judgements (Allinder, 2001; Horowitz & Bordens, 1995, p.234; Kılıçoğlu, Araz & Devrim, 1973; Sanford, 1961, p.473). According to Tavşancıl (2005, p.65), attitude is an element that shapes the behaviours of a person and comes into existence as a result of learning. Attitudes can be learned directly from personal experiences as well as they can be shaped genetically (Erden, 1995; Horowitz & Bordens, 1995, p.230). On the other hand, positive or negative values that are developed in regard with any profession can also be specified as attitude (Çetin, 2016). An attitude bound up with a profession is seen as one of the important properties predicting success and satisfaction of an individual in this profession (Erkuş, Sanlı, Bağlı & Güven, 2000; Gürbüz & Kışoğlu, 2007). Capability of practicing a profession of which individual has a positive attitude can provide an opportunity to the individual to make both himself or herself and other persons happy (Bozdoğan, Aydın & Yıldırım, 2007). In this direction, the attitude, which is owned by a teacher who is one of the core elements of training (Kavcar, 2005) which is directed to teaching profession will effect his or her success in teaching, professional satisfaction and feeling glad what he or she does. This can manifest itself as being performance of teacher both in-class or out-class (Çetin, 2016).

It can be said that individuals who developed positive attitude towards teaching profession use teaching methods and techniques more effectively, display more modern class management skills, design learning surroundings in best way. They are respectful, patient, motivating and having capability of making communication effectively (Eraslan & Çakıcı, 2011; Huinker & Madison, 1997; Kahyaoğlu & Yangın, 2007; Wenner, 1993). Positive attitude of the teacher towards his or her

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profession will be effective in learning-teaching process, in his or her studies and ultimately practicing his or her profession successfully (Güneyli & Aslan, 2009).

It can be said that adults (Haktanır, Dağlıoğlu & Güler, 2010), particularly teachers who are guiding students all along their educational lives (Bozdoğan et al., 2007; Can & Şahin, 2015) are effective on the students in terms of gaining attitude towards a field. Studies made in this field revealed that attitudes of the teachers towards their professions and their emotional responses have influence on the attitudes, behaviours, personalities and interests of students (Brooks & Sikes, 1997; Çapa & Çil, 2000; Erdem, Gezer & Çokadar, 2005; Jeans, 1995; Marzano & Marzano, 2003). In fact Pajares (1992), Williams and Burden (1997) as well as the studies made by Yaşar, Sözer and Gültekin (2000) revealed that attitudes of the teachers effect classroom atmosphere, learning, thinking processes of teachers and naturally their Professional development. As adopting a positive attitude by a teacher towards a class cause a similar attitude in the students (Washton, 1971) research on the teacher's attitudes is also important for the students. In this context, specifying and developing the variables influencing the attitudes of the class teachers towards teaching profession will have an influence indirectly on the attitudes of the students towards courses.

When the studies made about the attitude towards teaching are viewed it is seen that focal point is to determine attitude levels and to find out whether participant attitudes change as to demographic variables or not. In a part of studies that are made to determine the attitude levels of the preservice teachers towards teaching profession it is found out that teachers and preservice teachers have positive attitudes towards teaching profession (Bedel, 2008; Bozdoğan et al, 2007; Çetin, 2016; Doğan & Çoban, 2009; Erdem, 2012; Güneyli & Aslan, 2009; Kaya & Büyükkasap, 2005; Üstün, Erkan & Akman, 2004; Yıldırım, 2012). Another part of studies that are made to the contrary it is found out that preservice teachers have a negative attitude towards teaching profession (Oral, 2004; Özbek, Kahyaoğlu & Özgen, 2007). When researches are viewed, variables effecting attitude catch the attention. In the large part of the studies effect of the participant on the variables, attitudes are examined. In the studies demographic characteristics such as gender (Çeliköz & Çetin, 2004; Çiçek-Sağlam, 2008; Gürbüz Türk & Genç, 2004; Özgür, 1994; Özder, Konedralı & Zeki, 2010; Polat, 2013; Üstün et al, 2004; Yıldırım, 2012), departments where undergraduates educate (Bozdoğan et al., 2007; Polat, 2013; Usta & Korkmaz, 2010; Yıldırım, 2012), socio-economic level (Güneyli & Aslan, 2009; Kılınç, 1997; Şimşek, 2005), order of preference (Çapa & Çil, 2000; Çeliköz & Çetin, 2004; Doğan & Çoban, 2009; Üstün et al., 2004), training level of parents (Bedel, 2008; Doğan & Çoban, 2009), class level (Aydın, Tuzcuoğlu & Tuzcuoğlu, 1994; Köğce, Aydın & Yıldız, 2009; Tanel, Kaya-Şengören & Tanel, 2007) are investigated in terms of their influence on attitude. On the other hand, in some studies focal point is on the effect of attitudes on behaviours (Stepans & McCormack, 1985; Stevens & Wenner, 1996; Wenner, 1993), on combining and teachers' attitudes towards private education students (Allan, 2011; Avramidis & Norwich, 2002; Hoskin, Boyle, & Anderson, 2015; Ruijs & Peetsma, 2009; Terpstra & Tamura, 2008), on the effect of teachers' effect on the preservice teachers (Florian & Linklater, 2010; Subban & Sharma, 2006) and on the relation between attitude and academic success (House & Prison, 1998; Jeans, 1995; Marzano & Marzano, 2003).

There is not a study in the related literature investigating relation between the attitudes towards teaching basic courses or attitudes towards teaching profession. However, there are researches investigating relations between basic courses in terms of student achievements and skills. Korpershoek, Kuyper van der Werf (2015) and Walker, Zhang and Surber (2008) revealed that reading skills effect mathematics skills. On the other hand, Borasi, Siegel, Fonzi and Smith (1998) and Brown and Ryoo (2008) revealed that reading skills effect science and mathematics skills. Schwarz (2009, p. 101) specifies that success in mathematics, science and life science are related with each other in higher level. Slavin (2015) indicates that reading and basic language skills is the most important for being successful in other courses.

The influence of the attitude towards any profession on professional achievement, the related literature revealed that the attitude towards teaching profession has an influence on academic achievement and development of students. In this case it is important to determine the relation between the attitudes of the preservice teachers towards teaching profession and the variables. This research is considered as the first and different as it is conducted to specify the relations between the attitudes towards teaching

of the basic courses (mother tongue, life science, science, mathematics) in elementary education and the attitudes towards teaching and it is believed that it will procure new information to the field and reveal new interactions. In this context the study is made for the purpose of finding out whether the attitudes of preservice class teachers towards mother tongue, life science, mathematics and science predict the attitudes towards teaching profession or not. In accordance with this purpose answers are sought to the following sub-problems:

1. Do the attitudes towards mother tongue, life science, mathematics and science correlate with each other and is the attitude towards teaching profession in significant level?
2. Do the attitudes towards mother tongue, life science, mathematics and science predict the attitude towards teaching profession in significant level?

## 2. Method

This research is conducted in pursuant of relational survey model, which a nonempirical design is belonging to the quantitative research approaches. Relational researches are conducted to determine the relation between two or more variables and the level of the relation (Fraenkel, Wallen & Hyun, 2015, p.332). Relational survey researches that do not indicate cause and effect relation give also an opportunity to estimate of variables that are predicted with reference to the variables that are predicted (Fraenkel et al., 2015, p.334; McMillan & Schumacher, 2014, p.244). As this research is designed to find out whether there is a significant relation between the attitudes towards teaching basic courses and the attitude towards teaching profession or not and to find out if the attitudes towards teaching basic courses predict significantly the attitude towards teaching profession or not it is conducted in compliance with the relational survey model. In this direction, firstly, the relation between variables is determined by using multiple correlation and then an estimate study is made to predict the attitude towards teaching profession.

### Study Group

The data used in the study is gained from totally 231 classroom teaching program senior students who educate in four different state universities on a volunteer basis. Convenience sampling method is used to determine the participants. The convenience sampling method is used in order to reach higher level of participants by the least cost (Fraenkel et al., 2015, p.100; McMillan & Schumacher, 2014, p.151). Participants are formed by 127 female, 104 male. 69 of the participants have lower family income, 107 of the participants have moderate family income and 55 of the participants have higher income. 195 of the participants prepared for the undergraduate placement exam from Turkish-mathematics field and 36 of the participants prepared for the undergraduate placement exam from mathematics-science field.

### Data Collection Tool and Data Collection Process

Data in the research is collected by using attitude scale towards teaching, attitude scale towards Turkish/Turkish language and literature teaching, attitude scale towards mathematics teaching and attitude scale towards science teaching. In the choice of the scales used in the study usable, valid and authenticity points is kept in sight for the preservice classroom teachers. Scales are used by getting necessary permissions from the related persons. The language of the scales is Turkish.

**Attitude Scale towards Teaching Profession:** In the study *Attitude Scale towards Teaching* developed by Erkuş et al. (2000) is used in order to determine the attitudes of preservice classroom teachers towards teaching profession. The scale is comprised of 22 items and is developed by five point Likert Scale. There are 13 positive and 9 negative items in the scale. The highest point to be get is 110, the lowest is 22. Exploratory Factor Analysis (EFA), item distinctiveness and scope validity studies are conducted and it is specified that scale is formed by one dimension. The internal reliability coefficient of the scale is determined as .99 by the researchers. In the result of reliability, analysis that is made by the data gained in the scope of current study Cronbach alpha internal consistency coefficient related to scale is calculated as .92.

**Attitude Scale towards Turkish/Turkish Language and Literature Teaching:** *Attitude Scale towards Turkish/Turkish Language and Literature Teaching* developed by Saracaloğlu, Karasakaloğlu

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and Gencil (2008) is used in order to determine the attitudes of the preservice classroom teachers towards mother tongue training. The form of the scale that is comprised of 25 items is designed as five point Likert Scale. 10 of the scale items is in positive 15 is in negative item format. The highest point that can be taken from the scale is 125, the least point is 25. Internal consistency coefficients in related with the sub-dimensions of the scale is changed between .67 and .90. Cronbach alpha internal consistency coefficient that is calculated in the current study is determined as .81.

**Life Science Teaching Attitude Scale:** *Attitude Scale towards Life Science Teaching* developed by Sarıkaya, Özgöl and Yılar (2017) is used in order to determine the attitudes of the preservice classroom teachers towards life science. The form of the scale that is comprised of 25 items is designed as five point Likert Scale. 21 of the scale items is in positive 4 is in negative item format. The highest point that can be taken from the scale is 125, the least point is 25. Exploratory Factor analysis and Confirmatory Factor analysis is made in order to determine the structure validity of the scale. In the results of the analysis it is found out that the scale is comprised of three sub-dimensions. Internal consistency coefficients in related with sub-dimensions of the scale is changed between .89 and .86. Internal consistency coefficient for all scale is determined as .93. In the current study scope Cronbach alpha internal coefficient for all scale is calculated as .90.

**Mathematics Teaching Attitude Scale:** *Mathematics Teaching Attitude Scale* that is developed by Tapia (1996) and adapted by Tabuk and Hacıömeroğlu (2015) to Turkish is used to determine the attitude of participant preservice classroom teachers toward mathematics teaching. The form of the scale that is comprised of 22 items is designed as five point Likert Scale. 13 of the scale items is in positive 9 is in negative item format. The highest point that can be taken from the scale is 110, the least point is 22. By making EFA the sub-dimensions of the scale are determined and the structure is verified by the Confirmatory Factor analysis. Cronbach alpha values related with the sub-dimensions of the scale is changed between .91 and .76. The Cronbach alpha value related with all Scale is calculated as .74. In the scope of this study Cronbach alpha value for all scale is calculated as .79.

**The Attitude Scale of Science Teaching for Classroom Teachers:** *Science Teaching Attitude Scale* that is developed by Thompson and Shrigley (1986) and adapted to Turkish by Tekkaya, Çakıroğlu and Özkan (2002) is used to determine the attitudes of participant classroom preservice teachers towards science teaching. The form of the scale that is comprised of 20 items is designed as five point Likert Scale. The highest point that can be taken from the scale is 100, the least point is 20. Reliability coefficient related with all scale is determined as .86. In result of reliability, analysis that is made by the data gained the Cronbach alpha internal consistency coefficient of the scale is calculated as .87.

### Data Analysis

Before analysing the data the scales have been enumerated. In the end of enumeration procedure it was seen that there were 240 available forms. The data was downloaded to SPSS 22 package program. All of the scales belonging to five participants (two life science teaching, one mathematics, three Turkish teaching) were removed from the research. The lacking cells were filled with averages paying regard to that the cells that were left blank should not exceed 2% in total data set (Seçer, 2015, p.17). The negative items on the program were turned upside down and the total points taking from the scales for analysing were calculated.

In order to determine availability of data set to analysis they were controlled to find out if they were normally distributed or not. In this direction firstly, Mahalonobis distance coefficient values belonging to the data were investigated in order to test the multivariate normal distribution hypothesis. The distance coefficient was determined as 18.47 (Seçer, 2015, p.36) as the research was conducted by four predicting variables and the scales belonging to four participants who exceeding that value were left out. In the end of this procedure arithmetic average, mod and median proximity, flatness and warp values, P-P and Q-Q graphics, box-and whisker graphics, foliated graphics and finally histograms belonging to data distribution were examined in order to control whether 231 data displayed normal distribution or not. In the end of all investigations, it was found out that data distribution was normal. On the other hand, independent errors hypothesis -Durbin Watson- (Field, 2013, p.311) which is one of the preconditions of regression and multiple linearity correlation hypothesis -Tolerance, VIF- (Field, 2013, p.325) were provided.

Descriptive and inferential statistics were used in the analysis of the data gained. In the part of descriptive statistics average, standard deviation, minimum and maximum values that are gained from attitude scales were included. In the part of inferential statistics estimation model towards the relation between variables and predicting the attitude towards teaching profession processes were realized. The relation between variables has been examined by Pearson product moment correlation and in realization of estimation model hierarchical regression analysis has been used. Predicting variables were included in the model by paying regard to correlation analysis results. For each model that is made software package called G-Power (Faul, Erdfelder, Buchner & Lang, 2009) was used and post-hoc power analysis was made. In this scope, it is aimed at verification of statistical effect.

Tekbıyık (2014, p.103) puts emphasis on the issue that in correlation studies data about the variables should be collected simultaneously and in regression studies firstly the data about predicting variables and then the variable that is predicted should be collected. The data was collected within one class hour (50 minutes) synchronously as the current study includes correlation analysis.

### 3. Findings

Findings about descriptive statistics are shown in Table 1.

**Table 1.** Descriptive statistics results

	N	Average	Standard Deviation	Minimum	Maximum
Teaching Profession	231	80,09	11,45	58	105
Mother Tongue Teaching	231	81,11	10,99	53	108
Life Science Teaching	231	81,11	13,62	45	114
Mathematics Teaching	231	81,87	11,41	58	109
Science Teaching	231	75,68	10,54	50	103

According to the Table 1, it can be said that the attitude of preservice teachers (N=231) towards teaching profession ( $\bar{x}=80,99$ ;  $sd=11,45$ ), mother tongue teaching ( $\bar{x}=81,11$ ;  $sd=10,99$ ), life science teaching ( $\bar{x}=81,87$ ;  $sd=11,41$ ), mathematics teaching ( $\bar{x}=81,87$ ;  $sd=11,41$ ) and science teaching ( $\bar{x}=75,68$ ;  $sd=10,54$ ) is reasonable.

#### Relation between variables

Results of Pearson Product Moment Correlation analysis that is made to determine the relation between the variables are shown in Table 2.

**Table 2.** Results of correlation analysis about variables

	1	2	3	4
1. Teaching Profession	-			
2. Mother Tongue Teaching	.69**			
3. Life Science Teaching	.56**	.40**		
4. Mathematics Teaching	.54**	.50**	.37**	
5. Science Teaching	.50**	.42**	.44**	.36**

When the Table 2 is examined it is understood that all of the variables indicate reasonable and positive and significant relation between each other. The variables that have the highest-level relation with the attitude towards teaching profession respectively are attitude towards mother tongue teaching ( $r=.69$ ;  $p<.001$ ), attitude towards life science teaching ( $r=.56$ ;  $p<.001$ ), attitude towards mathematics teaching ( $r=.54$ ;  $p<.001$ ) and attitude towards science teaching ( $r=.50$ ;  $p<.001$ ). It is determined that the highest-level relation is between the attitude towards teaching and the attitude towards mother tongue teaching ( $r=.69$ ;  $p<.001$ ) and the lowest relation level is between the attitude towards science teaching and the attitude towards mathematics teaching ( $r=.36$ ;  $p<.001$ ).

### Factors effecting the attitude towards teaching profession

The results of hierarchial regression analysis related the factors influencing the attitude towards teaching professions are shown in Table 3.

**Table 3.** Results of Hierarchial regression analysis

Variables	Model 1B	Model 2		Model 3		Model 4	
		B	95% C.I.	B	95% C.I.	B	95% C.I.
Constant	22.11*	10.46**	[2.46, 18.45]	4.10**	[-4.29, 12.50]	-0.30**	[-9.10, 8.49]
Mother Tongue Teaching	.715**	.573**	[.476, .671]	.487**	[.382, .591]	.452**	[.346, .557]
Life Science Teaching		.285**	[.207, .364]	.252**	[.174, .331]	.218**	[.137, .298]
Mathematics Teaching				.196**	[.097, .295]	.177**	[.079, .276]
Science Teaching						.153**	[.049, .258]
$R^2$	.47	.56		.59		.61	
$F$	203.62**	149.45**		110.87**		87.92**	
$\Delta R^2$	.46	.56		.58		.60	
$\Delta F$	203.62**	50.91**		15.15**		8.32**	
**p<.01							

When the Table 3 is examined it is seen that the hierarchical regression analysis is realized in four stages. The variables are ranged and included in the analysis by considering correlation analysis results. In the first step only the attitude towards mother tongue teaching is included in the model. The attitude towards mother tongue teaching single-handedly accounts 47% of variance of the attitude towards teaching profession ( $p<.001$ ). In the second stage, the attitude towards life science teaching is added to the model. The two variables account 56% of the variance of the attitude towards teaching profession ( $p<.001$ ). In the third stage the attitude towards mathematics teaching is added to the model and in this case it is seen that predicting variables account 58% of the variance related to the attitude towards teaching profession ( $p<.001$ ).

Lastly, the variance towards science teaching is added to the model. In this case it is understood that the attitudes of mother tongue, life science, mathematics and science have higher level and significant relation with the attitude towards teaching profession ( $R=.78$ ,  $R^2=.60$ ,  $p<.001$ ). Accordingly, all variables account 60% of total variance in the attitude towards teaching profession. When the standardized beta coefficients is examined by paying regard to the relative significance level it can be said that the attitudes towards mother tongue, life science, mathematics and science respectively is a significant predictor for the attitude towards teaching profession.

For each model post-hoc power test is conducted. The results of post-hoc test is calculated for the first model as  $1-\beta=0.83$ , for the second model as  $1-\beta=0.80$ , for the third model as  $1-\beta=0.81$  and for the fourth model as  $1-\beta=0.81$ . It is seen that the values gained is higher than .80. The case may be interpreted for all models statistically effect is varified.

### 4. Results and Discussion

It has been found out that the attitudes of the preservice teachers who are participated in the study towards teaching profession and basic courses teaching is in moderate level. In the study that has been made by Ergen and Töman (2014) and Serin, Güneş and Değirmenci (2015) on the preservice

classroom teachers it is concluded that the attitudes of preservice teachers towards profession is in moderate service and positive. On the other hand, Saracaloğlu, Karasakaloğlu and Dedeali (2011) expresses in their study made on Turkish and classroom preservice teachers that their attitudes towards Turkish teaching is in moderate level. In the study that has been made by Denizoğlu (2008) and Genç, Deniz and Demirkaya (2010) on the preservice classroom teachers it is concluded that the attitudes of preservice teachers towards science is in moderate service. The findings gained from the study is in consistency with the related study results.

The findings gained from the research indicate that the attitudes of the preservice classroom teachers towards teaching profession are related with their attitudes towards mother tongue, life science, mathematics and science in significant level. Zhang and Sternberg (2016, p.55) expresses that the attitude towards teaching is related with science teaching. The findings gained in the research towards the basic courses indicate that the courses are related each other in significant level. Thus, Saravia-Shore (2008, p.74) remarks that learning of mathematics, science and social studies by elementary students shares similarity with the mother tongue learning. Porter (2000, p.136) states that there is higher-level relation between mathematics and reading skills. Schwarz (2009, p. 101) remarks that mathematics, science and social studies are related with each other in higher level. Akbaşlı, Şahin and Yaykiran (2016) specifies that reading comprehension is the most significant factor in the mathematics and science achievements. On the other hand, Yılmaz (2015) expresses that there is a relation between reading comprehension and mathematics, science and social studies. Slavin (2015, p.45) points out that the achievement in other courses is related with reading achievement and school achievement in the society is put on par with reading achievement. Another finding gained in the study is that the lowest level relation in the variables included in the study is between the attitude towards science teaching and the attitude towards mathematics teaching. On contrary to this finding Haylock & Thangata (2007, p. 3) and Akbaşlı et al. (2016) express that mathematics and science is related. This can be explained as the departments where the participants educate and the departments where they prepare for placement exam are different.

The last finding obtained by the study is that the attitude towards teaching profession is predicted by the attitudes towards basic courses teaching. Terzi and Tezci (2007) specified that the area courses that are taken by the teachers effect the attitudes towards profession. Hoskin, Boyle and Anderson (2015) emphasized that trainings and experience taken before service effect the attitude. When the trainee programs for classroom teachers are investigated, it can be seen that there are area courses in the courses towards basic courses teaching. In this sense the related finding is supported by the statements of the mentioned authors. When the relative significance level is considered it is concluded that the attitude towards mother tongue, life science, mathematics and science teaching respectively is the predictor of the attitude towards teaching. The reason of much predicting power of the attitude towards mother tongue teaching may be originated from placement of first reading and writing teaching that are the core tasks of classroom teachers in the mother tongue teaching. The lower contribution of science and mathematics teaching attitudes to the model may be explained as the placements areas of the preservice classroom teachers. Thus, Kacar and Sariçam (2015) specifies that the attitudes towards mathematics and science of the candidates who graduated from Turkish-mathematics area are lower than the attitudes towards mathematics-science of the candidates. On the other hand, their concern level is higher. The studies of Avcı, Coşkuntuncel and İnandı (2011) and Çelik and Bindak (2005) support this finding.

It is concluded in the study that the attitudes of preservice classroom teachers towards basic courses teaching is related with each other and the attitude towards teaching profession is in significant level. It is found out that the attitudes towards mother tongue, life science, mathematics and science respectively is related with teaching profession and they are a significant predictor of the attitude towards teaching profession. The results of power analysis indicates that effect is verified statistically. According to this it can be said that increasing the attitudes of preservice classroom teachers towards mother tongue, life science, mathematics and science will give way to development of their attitudes towards teaching profession. This research is made by relational survey method that is one of nonempirical designs. Nonempirical studies may be used to form a basis for empirical researches. In this direction empirical studies can be designed by taking research results into consideration. On the

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other hand, they may make suggestions to the practitioners in order to contribute to develop preservice teachers' attitudes towards teaching profession.

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