



Öğretmen Adaylarının Öğretim Programı Okuryazarlıkları ile Öğretmenliğe Hazır Olma Durumları Arasındaki İlişkinin İncelenmesi¹

An Analysis of the Relationship Between the Pre-Service Teachers' Curriculum Literacy and Their Preparedness to Teach ¹

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ÖZ: Bu araştırmanın amacı, öğretmen adaylarının öğretim programı okuryazarlıkları ile öğretmenliğe hazır olma durumları arasındaki ilişkiyi tespit etmektir. Araştırmada nicel araştırma yaklaşımlarından biri olan ilişkisel tarama modeli kullanılmıştır. Araştırmanın çalışma grubunu Arapça eğitimi, fen bilimleri eğitimi, ilköğretim matematik eğitimi, İngilizce eğitimi, sınıf eğitimi, sosyal bilimler eğitimi ve Türkçe eğitimi ana bilim dallarında öğrenim gören 373 öğretmen adayı oluşturmaktadır. Araştırmanın katılımcıları belirlenirken uygun örnekleme yöntemi kullanılmıştır. Veri toplama aracı olarak “Öğretim Programı Okuryazarlığı Ölçeği” ve “Öğretmenliğe Hazır Olma Ölçeği” kullanılmıştır. Verilerin analizinde betimsel istatistik, çoklu doğrusal regresyon ve korelasyon analizleri kullanılmıştır. Araştırma sonucunda öğretmen adaylarının öğretim programı okuryazarlığı açısından program hedefleri, program içeriği, öğrenme-öğretme süreçleri ve ölçme-değerlendirme alt boyutlarında yüksek düzeyde; öğretmenliğe hazır olma durumları açısından etkili öğrenme ortamı oluşturma alt boyutlarında ise orta düzeyde katılım gösterdikleri tespit edilmiştir. Araştırma sonucunda öğretim programı okuryazarlığı ölçeğinin genel toplamı ile öğretmenliğe hazır olma ölçeğinin öğreneni anlama, teknopedagojik yaklaşım, öğretim sürecini tasarlama alt boyutları arasında pozitif yönlü, orta düzeyde ve anlamlı bir ilişki; etkili öğrenme ortamı oluşturma alt boyutu arasında pozitif yönlü, yüksek düzeyde ve anlamlı bir ilişki olduğu tespit edilmiştir. Ayrıca öğretim programı okuryazarlık ölçeğinin alt boyutları olan program hedefleri, program içeriği, öğrenme-öğretme süreci ve ölçme-değerlendirme öğretmen adaylarının öğretmenliğe hazır olma düzeylerini anlamlı şekilde yordadığı sonucuna ulaşılmıştır.

Anahtar sözcükler: Öğretim programı, öğretim programı okuryazarlığı, öğretmen adayları, öğretmenliğe hazır olma durumu

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ABSTRACT: This study attempts to determine the relationship between the pre-service teachers' curriculum literacy and their preparedness to teach. Having a quantitative research design, the study employed the correlational survey model. The sample consisted of 373 pre-service teachers studying in the departments of Arabic, science, primary school mathematics, English, classroom, social sciences and Turkish education. The participants were chosen by the convenience sampling method. This study deployed "Curriculum Literacy Scale" and "Preparedness to Teach Scale" as data collection tools. Descriptive statistics, multiple linear regression and correlation analyses were used during data analysis. The results suggested that the pre-service teachers had a high level of curriculum literacy in terms of curriculum objectives, curriculum content, teaching-learning processes and measurement-evaluation sub-factor. As for their preparedness to teach, they had a high level of participation in terms of the sub-factor of forming an effective learning environment, while a moderate level of participation related to the sub-factors of designing the instructional process, techno-pedagogical approach and understanding the learner. A positive, moderate and significant relationship was identified between the overall of the curriculum literacy scale and the sub-factors of understanding the learner, techno-pedagogical approach, and designing the instructional process, while a positive, high-level and significant relationship was found between the pre-service teachers' curriculum literacy and the sub-factors of forming an effective learning environment. Besides, the curriculum objectives, curriculum content, teaching-learning process and measurement-evaluation, which are the sub-factors of the curriculum literacy scale, significantly predicted the pre-service teachers' preparedness to teach.

Keywords: Curriculum, curriculum literacy, pre-service teachers, preparedness to teach

1. INTRODUCTION

Education can be defined as providing individuals with skills, attitudes, knowledge and behaviours particular to the age in which they live under the strength of each society's cultural values (Demirel & Kaya, 2006). Therefore, each country aspires to raise individuals for the benefit of society considering its technology and economic interests according to the philosophy it aims at (Ertürk, 2017). Curricula play a significant role in achieving this goal. Indeed, they are the most important guides of teachers in the classroom (Aslan & Gürlen, 2019).

They are also effective in the organization and maintenance of the teaching-learning process. They cannot be effective unless they are implemented in a planned and programmed way in the teaching-learning environments (Fer, 2015). Teachers, on the other, are the most important actors in the effective and efficient implementation of curricula (Bolat, 2021). Curricula revive in the hands of teachers. However, some studies on curriculum have suggested the problems experienced in the implementation of curriculum (Gezgin & Bal, 2021; Saraç & Yıldırım, 2019; Taş & Kıröğlü, 2018). Upon analyzing these problems, it is most likely that teachers encounter problems while implementing the curriculum as they do not have curriculum literacy.

Teachers are responsible for conducting the teaching-learning process in a qualified manner. Therefore, they must be curriculum literates to fulfil this duty properly, which may contribute to their effective and efficient implementation of the curriculum. In this regard, they should be provided with curriculum literacy in pre-service training. The fact that teacher candidates are curriculum literates may also affect their readiness for the teaching profession. Because the pre-service teachers with curriculum literacy may determine which educational philosophy is based on, the association of the learning outcomes with student development characteristics and taxonomy, the relationship between outcomes and content, which teaching method and technique will be used in achieving learning outcomes, and which assessment and evaluation tool will be chosen and whether they are knowledgeable about its use in the learning environment. In this respect, curriculum literacy not only contributes to teachers' professional qualifications but also makes them handier for the profession.

Numerous studies have been conducted on the pre-service teachers' curriculum literacy (Aslan, 2019; Aslan & Gürlen, 2019; Atlı, Kara & Mirzeoğlu, 2021; Çetinkaya & Tabak, 2019; Demir & Toraman, 2021; Demir, Yücesoy & Serttaş, 2020; Erdem & Eğmir, 2018; Şinego & Çakmak, 2021; Tunçer & Şahin, 2019). Besides, some studies were conducted on readiness for teaching (Aybek & Aslan, 2019; Karakaya, Uzel, Gül & Yılmaz, 2018; Şimşek, 2018; Yıldırım & Kalman, 2017). However, there is no such a study specifically published on predicting the pre-service teachers' curriculum literacy and their preparedness to teach, which is regarded as a significant gap in the relevant literature. Curriculum literacy is within the scope of the education field. Hence, curriculum literacy is a concept that may contribute to the achievement of the expected objectives in education. In this context, the pre-service teachers' curriculum literacy is expected to contribute to their preparedness to teach. In addition, the first researcher observed within the scope of the courses that the pre-service teachers who are curriculum literates feel more ready for the teaching profession. Such a study was conducted in order to demonstrate the endorsement of this observation. This is the starting point of the present study.

This study reports on the dimensions of the relationship between the pre-service teachers' curriculum literacy and their preparedness to teach. The results of the study is expected to be a feedback for teacher training programs, instructors and pre-service teachers. Based upon the results of the study, teacher training programs will contribute to carry out the studies to improve the pre-service

teachers' curriculum literacy. Likewise, instructors working in teacher training programs may organize activities to improve the pre-service teachers' curriculum literacy skills in their classes. Pre-service teachers may also try to improve their curriculum literacy skills. Accordingly, they may organize the teaching-learning process in an effective and efficient way when they start the profession.

This study attempts to examine the pre-service teachers' curriculum literacy and their preparedness to teach in terms of some variables and to determine the relationship between them. In service of this aim, answers to the following sub-problems were sought.

1. What are the levels of the pre-service teachers' curriculum literacy and their preparedness to teach?
2. Is there a significant relationship between the pre-service teachers' curriculum literacy and their preparedness to teach?
3. Does the pre-service teachers' curriculum literacy significantly predict their preparedness to teach?

1.1. Conceptual Framework

1.1.1. Curriculum Literacy

Literacy, which facilitates the lives of individuals in society, consists of abilities that employ thinking skills (Lankshear & O'Connor, 1999; O'Brein & Rugen, 2001). Rapid technological developments in the 21st century have led to the booming of the concept of literacy, and literacy types specific to each field have emerged (Önal, 2010). Along with the developing and changing world order, education systems have also been updated and curriculum literacy has become a skill that should be acquired by teachers and pre-service teachers in terms of quality education (Kasapoğlu, 2020).

The relevant literature in Turkey has revealed that various concepts are used for curriculum literacy. This may be because this type of literacy has gained importance in Turkey in recent years. Besides, no consensus has been ensured about the definition of the concept as this concept has been studied in recent years. This study employed the term curriculum literacy. Curriculum literacy is one of the most significant skills in the process of understanding the objectives, content, teaching-learning processes and measurement-evaluation elements that a teacher or pre-service teacher should hold, and thus addressing the relationships between them (Bolat, 2021). Yar Yıldırım and Dursun (2018) reported that curriculum literacy is making sense of the concepts related to the curriculum and the relationships between the concepts, managing the curriculum, making decisions about the curriculum and planning, and being able to talk about the curriculum. Erdem and Eğmir (2018) defined curriculum literacy as teachers' knowledge about curriculum and their ability to adapt it to current conditions. Aslan (2019) described curriculum literacy as “*revealing the relationship between curriculum-outcome/objective, content, teaching-learning process and evaluation dimensions and understanding the consistency across these dimensions; determining whether these dimensions are prepared in accordance with the requirements of the age by taking into account cultural characteristics*” (p. 974).

Curriculum literacy is one of the most important skills that contribute to the pre-service teachers' critical and creative thinking skills and enable them to easily connect with the curriculum when they start their profession (Bolat, 2021). Therefore, it is of great importance for the pre-service teachers, who will be the implementers of the curriculum in the future, to understand and analyse the curricula, namely, to be curriculum literates and to integrate the curriculum into the learning and teaching process. In addition, curriculum literacy will provide pre-service teachers with the competence to

discern what the teaching philosophy is based on, and to be aware of what cultural values are created (Kahramanoğlu, 2019). In this vein, curriculum literacy provides great convenience to the pre-service teachers in understanding, interpreting and implementing the elements of the curriculum (Şinego & Çakmak, 2021).

Mastering on the objectives of the curricula requires being a good curriculum literate. Keskin and Korkmaz (2017) attributed being a qualified curriculum literate to the actions of having knowledge on the curriculum, transferring this knowledge to life and arranging the curriculum depending on the existing situations. Moreover, curriculum literacy is one of the most remarkable skills that facilitates blending theory and practice (Karagülle, Varki & Hekimoğlu, 2019). All pre-service teachers are expected to develop curriculum literacy skills. Thus, the courses pre-service teachers have received in their undergraduate education should focus on improving the curriculum literacy (Çetinkaya & Tabak, 2019) since a pre-service teacher with curriculum literacy will be able to read and interpret the curriculum in a qualified way and reveal the strengths of the curriculum (Keskin, 2020). In addition, the pre-service teachers who are curriculum literates can implement the curriculum effectively and efficiently when they start their profession. They can take into account the cultural characteristics and developmental characteristics including cultural development of the students while designing the teaching environment.

1.1.2. Preparedness to Teach

Preparedness to teach can be defined as developing a positive attitude towards the teaching profession, considering students as a whole and having sincere feelings (Semerci & Semerci, 2004). It is also described as the student teachers' desire for more qualified learning in line with designing consolidated teaching processes (Yıldırım & Kalman, 2017). In this regard, teachers' positive attitudes towards the teaching profession begins when they are pre-service teachers (Şimşek, 2005). Çeliköz and Çetin (2004) underpinned that pre-service teachers will fulfil their duties completely, develop analytical and creative thinking, will not have difficulty in ensuring the students' motivation, convey their verbal and non-verbal messages to the students in harmony, use time efficiently and being open to innovations when they develop positive attitudes towards their profession. Thus, the pre-service teachers who will open the doors of reality in the future will feel ready for the profession and fulfil their teaching profession properly (Aybek & Aslan, 2019).

With the transformation of education systems into a constructivist education approach in the 21st century, teachers are supposed to assume the roles of designing activities that construct knowledge together with students through appropriate learning experiences (Helvacı, 2009). Pre-service teachers need to develop a positive attitude towards the teaching profession in order to meet these roles. Only a pre-service teacher who gains competencies related to the teaching profession will be able to cope with the development of students as a whole and develop students in the desired way (Engin & Koç, 2014). Besides, pre-service teachers understand learners and create effective learning and teaching environments through technological materials, meaning that they feel ready for their profession (Yıldırım & Kalman, 2017).

2. METHOD

2.1. Research Design

This study deployed the relational survey model, which is one of the survey models. The relational survey model is defined as a model that aims to measure the relationships between two or

more variables (Creswell & Creswell, 2022). The relational survey model was used in the current study to reveal the relationship between the pre-service teachers' curriculum literacy and their preparedness to teach.

2.2. Research Participants

The participants consisted of the pre-service teachers who studied at a university in the Mediterranean Region and who were chosen by the convenience sampling method, a type of non-probability sampling methods where the researcher have the opportunity to select participants until the desired sample size is reached (Yıldırım, 2019). In this study, this sampling method was preferred because it was easily accessible to the participants of the research and this gave speed and practicality to the research. This study held a total of 373 pre-service teachers studying in the departments of Arabic, science, primary school mathematics, English, classroom, social sciences and Turkish education.

2.3. Data Collection Tools

This study employed two data collection tools. These are as following:

2.3.1. Curriculum Literacy Scale (CLS): The study used the "Curriculum Literacy Scale (CLS)" developed by Akyıldız (2020). The exploratory factor analysis results suggested four factors which were "Curriculum Objectives", "Curriculum Content", "Teaching-learning Process" and "Measurement and Evaluation". The curriculum objectives sub-factor of the scale explained 17.9% of the total variance, the curriculum content 17.0% of the total variance, the teaching-learning process 14.6% of the total variance, and the measurement and evaluation 10.6% of the total variance. The item factor loadings of the tool ranged from .509 to .778, and the item-total correlations varied across .49 and .74 (Akyıldız, 2020). Besides, the statistical significance levels of the chi-square (X^2) value ($X^2 = 22212,871$) appropriate for the model created for the scale were calculated through the use of Bartlett sphericity test (Akyıldız, 2020). Such items were presented as the indicators of each sub-factor. "I can distinguish between teaching objectives and teaching goals." for the sub-factor of the curriculum objectives; "I can relate the content to the objective." for the sub-factor of curriculum content; "I can design teaching-learning processes appropriate for the objectives." for the sub-factor of teaching-learning process; "I can prepare a suitable measurement tool related to the objective." for the measurement and evaluation sub-factor. A total score is obtained from the scale that aims to measure the participants' curriculum literacy competence perceptions. The internal consistency coefficient was examined for the sub-factors- curriculum objectives, curriculum content, teaching-learning process, measurement and evaluation as .84, .90, .94 and .93, respectively. The Cronbach Alpha coefficient was identified to be .97 for the overall scale (Akyıldız, 2020). As the scale was applied to pre-service teachers within the scope of this research, exploratory factor analysis of the scale was conducted. As a result of the exploratory factor analysis, it was determined that the four factors of the scale explained 66.81% of the total variance and the factor loads of the scale ranged from .32 to .77. The internal consistency coefficient of the scale was revisited in the present study. Accordingly, the Cronbach Alpha coefficient was determined as .86 for the curriculum objectives sub-factor, .93 for the curriculum content sub-factor, .95 for the teaching-learning process sub-factor and .95 for the measurement and evaluation sub-factor. The Cronbach Alpha coefficient was determined as .98 for the overall scale. The related literature suggests that the Cronbach Alpha coefficient should be .70 and above for a scale to be reliable (Fraenkel, Wallen & Hyun, 2014). Based on these results, the scale is valid and reliable.

2.3.2. Preparedness to Teach Scale (PTS): This study also employed the “Preparedness to Teach Scale”, which was developed by Linda Darling-Hammond and David Silvernail (1998) and translated into Turkish by Yıldırım and Kalman (2017). Exploratory factor analysis results confirmed a four-factor scale with 20 items. The factors of the scale were named as "Forming an Effective Learning Environment", "Designing the Instructional Process", "Techno-pedagogical Competency" and "Understanding the Learner". The factor of forming an effective learning environment explained 15.7% of the total variance; designing the instructional process 15.5% of the total variance; techno-pedagogical competency 14.9% of the total variance, and understanding the learner 12.5% of the total variance. The item factor loadings of PTS ranged between .51 and .74, while the item-total correlations varied from .55 to .69 (Yıldırım & Kalman, 2017). Confirmatory factor analysis was also performed to confirm the significance levels of chi-square (X^2) value ($X^2/df = 1.753$), which were appropriate for the model created for the scale. In addition, other fit indices related to the model (GFI = 0.93, AGFI = 0.91, RMSEA \leq 0.05, SRMR \leq 0.05, CFI \geq 0.95, NNFI \geq 0.95, IFI $>$ 0.95) indicated that the proposed model was acceptable (Yıldırım & Kalman, 2017). Each factor of the scale holds such items as "Choosing appropriate instructional strategies for different instructional purposes" for the factor of forming an effective learning environment; "Using effective verbal and non-verbal communication strategies to guide students' learning and behaviour" for the factor of designing the instructional process; "Support research and analysis (accessing the internet).” for the factor of techno-pedagogical competency; “To be able to understand the students’ learning pace in the class.” for the factor of understanding the learner. A total score is obtained from the scale that aims to measure the participants' preparedness to teach. The internal consistency coefficients were determined as .83, .81, .84 and .74, respectively for the factors of forming an effective learning environment, designing the instructional process, techno-pedagogical competency and understanding the learner. The Cronbach Alpha coefficient was identified to be .92 for the overall scale (Yıldırım & Kalman, 2017). The present study found the overall internal consistency coefficient of the scale as .97. As regards the factors- forming an effective learning environment, designing the instructional process, techno-pedagogical competency and understanding the learner, the Cronbach Alpha coefficients were determined as .93, .95, .92 and .89, respectively. The related literature suggests that the Cronbach Alpha coefficient should be .70 and above for a scale to be reliable (Fraenkel, Wallen & Hyun, 2014). Based on these results, the scale is valid and reliable.

2.4. Data Collection Process

Ethics committee decision was taken for the study (No: E-87432956-050.99-175001) and permission and approval documents were obtained (No: E-77685823-044-190403). Data regarding the scales of preparedness to teach and curriculum literacy were collected from 398 pre-service teachers between 12 March 2022 and 30 April 2022. Considering the pandemic conditions, the scales were organized and collected in two separate sections on the online (Google Forms) platform. In addition, the scales were accessible to the participants with a letter of informing the study and giving consent to voluntary participation.

2.5. Data Analysis

The data were analysed through the use of the statistical package program. Descriptive statistics, multiple and linear regression analysis, and multivariate analysis of variance (MANOVA) were used during data analysis. Certain assumptions must be met to perform MANOVA. These are testing the homogeneity of variances, meeting the multivariate normality assumption, the absence of multicollinearity and ensuring the homogeneity of variance-covariance matrices (Akbulut, 2011; Can, 2019; Field, 2009; Pallant, 2005; Seçer, 2015). This study initially tested whether the data met the

general conditions of parametric tests. The Kolmogorov-Smirnov test was used to identify whether the data demonstrated normal distribution. The Kolmogorov Smirnov test suggested that the data collected with curriculum literacy scale ($KSZ=.107$, $p<.05$) and the preparedness to teach scale did not demonstrate a normal distribution ($KSZ=.117$, $p<.05$). The skewness and kurtosis coefficients of the data and the Q-Q graph were examined to get the final decision about the normality of the data (Can, 2019; Ho, 2006; Seçer, 2015). Bachman (2004) reported that the skewness and kurtosis values should be between +2.00 and -2.00. The results affirmed that the skewness and kurtosis coefficients of the scales in general and their sub-factors were between +2.00 and -2.00. Q-Q graph of the data was also analysed. It is advisable that the Q-Q graph be gathered around a 45-degree deficit (Kilmen, 2020; Yaratan, 2020). Research data were collected at an angle of approximately 45 degree. Based on all these results, it is most likely that the data provided univariate normality. Descriptive statistics, correlation and multiple linear regression analyses were also used during data analysis. Correlation is an analysis that provides information about the presence or absence of a relationship between two variables (Can, 2019). The correlation coefficient is very weak between .00 and .20 in absolute value, weak between .20 and .40, moderate between .40 and .60, high between .60 and .80, very high between .80 and 1.00 (Rowntree, 1981; Salkind, 2010). Pearson correlation method was used to determine the relationship between the variables. The data set must meet some conditions in order to use Pearson correlation. Each data set should show a normal distribution and randomly selected data should be independent from each other (Salkind, 2010). The analysis results confirmed that all the assumptions were met. Multiple linear regression analysis was also used within the scope of the study. Multiple linear regression analysis requires to meet some assumptions. Variables with at least interval scale should show normal distribution, the relationship between each of the predictor variables and the predicted variable should be linear, the predicted changes should be independent of each other, and the differences between the predicted values and the observed values should exhibit a normal distribution (Büyüköztürk, 2020, p. 100). Accordingly, all the assumptions were met in the present study. Within the scope of the research, the participants' average participation level between 1.00-2.37 was stated as low, average between 2.38-3.74 participation medium, and average between 3.75-5.00 as high.

3. FINDINGS

This section holds findings regarding the levels of the pre-service teachers' curriculum literacy and their preparedness to teach, whether there is a significant relationship between these two dependent variables, and whether curriculum literacy predicts preparedness to teach.

Table 1 depicts the standard deviation and arithmetic mean values related to the pre-service teachers' curriculum literacy levels and sub-factors.

Table 1. *The Pre-Service Teachers' Participation Levels Regarding Their Curriculum Literacy Levels*

Sub-factors	n	Max	Min	M	O	T	SD	Level
Curriculum objectives	373	5.00	2.33	3.97	4.00	4.00	.57	High
Curriculum content	373	5.00	2.11	4.02	4.00	4.00	.59	High
Teaching-learning process	373	5.00	2.00	4.01	4.00	4.00	.62	High
Measurement-evaluation	373	5.00	1.89	3.98	4.00	4.00	.68	High
Curriculum literacy-total	373	5.00	2.25	4.00	4.00	4.00	.57	High

Table 1 displays the arithmetic mean and standard deviation values with regard to each sub-factor of the curriculum literacy scale. As is seen in Table 1, the pre-service teachers were identified to have a high level of participation in terms of the curriculum content ($M = 4.02$), the teaching-learning

process ($M = 4.01$), the measurement-evaluation ($M = 3.98$) and the curriculum objectives ($M = 3.97$) and overall scale ($M = 4.00$).

Table 2 demonstrates the standard deviation and arithmetic mean values related to the pre-service teachers' preparedness to teach and sub-factors.

Table 2. The Pre-Service Teachers' Participation Levels Regarding Their Preparedness to Teach Levels

Sub-factors	n	Max	Min	M	O	T	SD	Level
Forming an effective learning environment	373	5.00	2.17	4.04	4.00	4.00	.56	High
Designing the instructional process	373	5.00	1.00	3.64	3.83	4.00	.91	Moderate
Techno-pedagogical approach	373	5.00	1.00	3.69	3.80	4.00	.91	Moderate
Understanding the learner	373	5.00	1.00	3.54	3.67	4.00	.87	Moderate
Preparedness to teach-total	373	5.00	1.10	3.62	3.85	4.00	.82	Moderate

As in Table 2, the pre-service teachers were identified to have a high level of preparedness to teach in terms of forming an effective learning environment ($M = 4.04$), while a moderate level participation related to techno-pedagogical approach ($M = 3.69$), designing the instructional process ($M = 3.64$) and understanding the learner ($M = 3.54$) and overall scale ($M = 3.62$).

Table 3 displays the results of Pearson analysis conducted to reveal the relationship between the pre-service teachers' curriculum literacy and their preparedness to teach.

Table 3. The Findings of Pearson Correlation Analysis Regarding the Relationship Between Curriculum Literacy and Preparedness to Teach

Variables		Preparedness to teach	Understanding the learner	Technopedagogical approach	Designing the instructional process	Forming an effective learning environment
Curriculum literacy	<i>r</i>	.36**	.31**	.35**	.31**	.88**
	<i>p</i>	.000	.000	.000	.000	.000
	<i>n</i>	373	373	373	373	373
Curriculum objectives	<i>r</i>	.28**	.24**	.27**	.25**	.89**
	<i>p</i>	.000	.000	.000	.000	.000
	<i>n</i>	373	373	373	373	373
Curriculum content	<i>r</i>	.33**	.28**	.32**	.28**	.90**
	<i>p</i>	.000	.000	.000	.000	.000
	<i>n</i>	373	373	373	373	373
Teaching-learning process	<i>r</i>	.35**	.30**	.34**	.31**	.79**
	<i>p</i>	.000	.000	.000	.000	.000
	<i>n</i>	373	373	373	373	373
Measurement-evaluation	<i>r</i>	.32**	.28**	.33**	.28**	.71**
	<i>p</i>	.000	.000	.000	.000	.000
	<i>n</i>	373	373	373	373	373

** $p < .01$; * $p < .05$

Table 3 revealed a positive, moderate and significant relationship between the overall of the curriculum literacy and preparedness to teach scales ($r = .36$; $p < .01$). A positive, moderate and significant relationship was identified between the overall curriculum literacy scale and the sub-factors of understanding the learner ($r = .31$; $p < .01$), technopedagogical approach ($r = .35$; $p < .01$) and designing the instructional process ($r = .31$; $p < .01$); while a positive, high-level and significant relationship was found between the overall of the curriculum literacy scale and the sub-factor of forming an effective learning environment ($r = .88$; $p < .01$).

A positive and low level correlation was determined between the curriculum objectives, the first sub-factor of the curriculum literacy scale and the overall of preparedness to teach scale ($r = .28$; $p < .01$), while a positive, low-level and significant relationship across the sub-factors of understanding the learner ($r = .24$; $p < .01$), techno-pedagogical approach ($r = .27$; $p < .01$) and designing the instructional process ($r = .25$; $p < .01$). Moreover, there was a positive, high-level and significant relationship between the curriculum objectives and forming an effective learning environment ($r = .89$; $p < .01$).

A positive, moderate and significant relation was identified between the curriculum content, which is the second sub-factor of the curriculum literacy scale, and the overall of preparedness to teach scale ($r = .33$; $p < .01$); a positive, moderate and significant relationship between the curriculum content and the sub-factors of understanding learner ($r = .28$; $p < .01$), designing the instructional process ($r = .28$; $p < .01$) and techno-pedagogical approach ($r = .32$; $p < .01$); a positive, high-level and significant relationship between the curriculum content and forming an effective learning environment ($r = .90$; $p < .01$).

A positive, moderate and significant correlation was found between the teaching-learning process, the third sub-factor of the curriculum literacy scale, and the overall of preparedness to teach scale ($r = .35$; $p < .01$); a positive, moderate and significant relationship between the teaching-learning process and the sub-factors of understanding learner ($r = .30$; $p < .01$), designing the instructional process ($r = .31$; $p < .01$) and techno-pedagogical approach ($r = .34$; $p < .01$); a positive, high-level and significant relationship between the teaching-learning process and forming an effective learning environment ($r = .79$; $p < .01$).

A positive, moderate and significant relationship was noted between the measurement-evaluation, the fourth sub-factor of the curriculum literacy scale, and the overall of preparedness to teach scale ($r = .32$; $p < .01$); a positive, low-level and significant relationship between the measurement-evaluation and the sub-factors of understanding learner ($r = .28$; $p < .01$) and designing the instructional process ($r = .28$; $p < .01$); a positive, moderate and significant relation between the measurement-evaluation and techno-pedagogical approach ($r = .33$; $p < .01$); a positive, high-level and significant relationship between the measurement-evaluation and forming an effective learning environment ($r = .71$; $p < .01$).

Based on the third sub-problem of the study, multiple linear regression analysis was performed to determine as to whether the pre-service teachers' curriculum literacy predicted their preparedness to teach. The findings are presented in Table 4.

Table 4. The Findings of Multiple Linear Regression Analysis Regarding the Predictive Role of the Curriculum Literacy Sub-Factors in Preparedness to Teach

Predicted Variable	Predicting Variable	B	Standard Error	β	t	p	Binary r	Partial r
Preparedness to teach	Stable	1.633	.296	-	5.516	.00	-	-
	Curriculum objectives	.017	.116	.012	.145	.884	.008	.007
	Curriculum content	.091	.152	.065	.596	.551	.031	.029
	Teaching-learning process	.272	.147	.206	1.853	.065	.096	.090
	Measurement-evaluation	.116	.100	.097	1.157	.248	.060	.56
R = .357		R ² = .128						
F (4.368) = 13.451		p = .000						
Durbin-Watson: 1.231								

Table 4 depicts the results of the multiple linear regression analysis regarding the predictive role of the pre-service teachers' curriculum literacy sub-factors in their preparedness to teach. One of the assumptions of regression analysis is the absence of multicollinearity between independent variables. This assumption can be examined through correlation values. The fact that the correlation between the variables is not .80 and above can be interpreted as the absence of multicollinearity problem. The correlation coefficient between the variables was not over .80.

Table 4 presents R, R² and Adjusted R², standard error of the model and Durbin-Watson statistics for the whole regression model. R² coefficient of determination indicates what percentage of the dependent variable is explained by the independent variables, namely, the power of the model. The analysis results suggested that the sub-factors of the curriculum literacy scale "Curriculum Objectives", "Curriculum Content", "Teaching-learning Process" and "Measurement-Evaluation" significantly predicted the preparedness to teach (R = .357; R² = .128; F₍₄₋₃₆₈₎ = 13.451; p < .05). These four variables explained 12.8% of the pre-service teachers' preparedness to teach. The standardized regression coefficients demonstrated the order of importance of the predictors on the dependent variable as "Teaching-learning Process" ($\beta = .206$), "Measurement-Evaluation" ($\beta = .097$), "Curriculum Content" ($\beta = .065$) and "Curriculum Objectives" ($\beta = .012$).

4. DISCUSSION

The results of the study, conducted to examine the pre-service teachers' curriculum literacy and their preparedness to teach and to determine whether there was a relationship between them, revealed that the pre-service teachers' curriculum literacy levels were high with regard to "Curriculum Literacy" scale and its sub-factors "Curriculum Objectives, Curriculum Content, Teaching-learning Process" and "Measurement-Evaluation" sub-dimensions. A correct understanding and interpretation of the curriculum is a prerequisite for an effective implementation of the curriculum. This paved the way for the fact that the teaching-learning process will be organized in a qualified way, the content will be planned, and appropriate measurement and evaluation tools will be selected and applied. Likewise, it is most probable that the pre-service teachers with high curriculum literacy levels will ensure the curricula to achieve the objectives when they start their profession. Therefore, the pre-service teachers who curriculum literates can prepare annual plans and lesson plans, use textbooks more effectively, design teaching environments according to the characteristics of the class, and use appropriate measurement-evaluation tools while fulfilling the teaching profession. Aslan and Gürlen (2019)

examined teachers' curriculum literacy levels and determined that the sub-factors of the curriculum literacy scale were ranked as "planning, implementation and curriculum knowledge" according to the means. This result is congruent with those of Aslan (2019), Aslan and Gürlen (2019), Atlı, Kara and Mirzeoğlu (2021), Çakmak and Şinego (2021), Çetinkaya and Tabak (2019), Dedebali and Süral (2018), Demir and Toraman (2021) and Erdem and Eğmir (2018). These results confirmed that teachers and pre-service teachers are competent in curriculum literacy.

The results also suggested that the pre-service teachers' preparedness to teach was at a moderate level based upon the scores they got from the "Preparedness to Teach" scale and the sub-factors of "Designing the Instructional Process, Techno-pedagogical Competence and Understanding the Learner". Besides, pre-service teachers felt ready at a high level in terms of the sub-factor of "Forming an Effective Learning Environment". The fact that the pre-service teachers' preparedness to teach are at a moderate level indicates that they are willing to fulfil the obligations required by the teaching profession. However, this may result in failure in carrying out the teaching-learning process effectively when they start their profession, which will have negative effect on students. This may also negatively affect students' acquisition of 21st century skills as well as basic knowledge and skills. The fact that the pre-service teachers had a high-level participation in the sub-factor of forming an effective learning environment may indicate they will construct their teaching-learning processes effectively while performing their profession. The results of the study are in conjunction with those of the studies on the preparedness to teach (Aksoy, 2010; Gelen & Özer, 2008; Marso & Pigge, 1997; Sandıkçı & Öncü, 2013). On the contrary, Aybek and Aslan (2019) and Şimşek (2018) analyzed the pre-service teachers' preparedness to teach and determined that they were ready for their profession at a high level. The reason for this difference may be because these studies are conducted in different universities, and that different teacher practices take place in the undergraduate education. In addition, this may be due to the variety of faculty members working at universities.

The second sub-problem of the study investigated whether there was a relationship between the pre-service teachers' curriculum literacy and their preparedness to teach. Accordingly, a moderate and high-level significant relationships were identified between the pre-service teachers' curriculum literacy and their preparedness to teach. In other words, as the curriculum literacy scores of the pre-service teachers increase, their preparedness to teach scores also increase. This result shows that pre-service teachers will be more prepared for teaching if their curriculum literacy skills develop during their undergraduate education. Aybek and Aslan (2019) found a moderate relationship between pre-service teachers' self-efficacy beliefs and their preparedness to teach, meaning that pre-service teachers feel more ready for teaching when their self-efficacy increases. This result is in line with that of this study since the curriculum literacy includes professional competences.

This study also examined whether the pre-service teachers' curriculum literacy significantly predicted their preparedness to teach. The results confirmed that the sub-factors of curriculum objectives, curriculum content, teaching-learning process and measurement-evaluation significantly predicted teachers' preparedness to teach. In other words, as pre-service teachers improve themselves in terms of curriculum literacy, they feel more prepared to teach. This result demonstrates that the pre-service teacher who wants to be a good teacher should be curriculum literates. If teacher training institutions run activities that will help pre-service teachers gain curriculum literacy, they will also positively affect their preparedness to teach. Those with a high level of curriculum literacy will also feel that they are ready for teaching. Lim and Northcote (2009) emphasized that curriculum literacy is of great importance for pre-service teachers who are prepared to teach. Because a literate pre-service teacher will have a common language with the curriculum in undergraduate education and teaching profession experiences. A teacher's feeling of preparedness to teach is parallel to the self-development

in the undergraduate process. Thus, teachers with curriculum literacy will feel that they are more ready for the teaching profession. Aybek and Aslan (2019) concluded that the pre-service teachers' professional self-efficacy significantly predicted their preparedness to teach. Curriculum literacy is a competency required by the teaching profession (Ministry of National Education [MoNE], 2017). Thus, pre-service teachers' preparedness to teach will be positively affected by this competency.

5. CONCLUSION

The results suggested that the pre-service teachers had a high level of curriculum literacy, yet the level of preparedness to teach was low. These results are considered as the significant results of this study. The pre-service teachers with high curriculum literacy will be able to implement the curriculum effectively and efficiently when they start their profession. However, the fact that their preparedness to teach is not high indicates that they do not consider themselves professionally competent. Besides, a significant relationship was identified between pre-service teachers' curriculum literacy and their preparedness to teach, and that curriculum literacy predicted their preparedness to teach, referring that pre-service teachers feel more prepared to teach if they are curriculum literates.

6. RECOMMENDATIONS

Based on the results, various recommendations were provided;

1) The results demonstrated that pre-service teachers had a moderate level of preparedness to teach, indicating that the education they received at the university was not effective enough in terms of being ready for the teaching profession. Based on this result, pre-service teachers should be supported in practice, and the learning environments at the university should be made more suitable for learning in terms of understanding the learner. In this regard, giving more importance to teaching practice studies and ensuring the transfer of learned knowledge from theory to practice might contribute to the teachers' preparedness to teach.

2) It is recommended to conduct a variety of studies on investigating pre-service teachers' curriculum literacy and their preparedness to teach through using different research models and designs such as experimental, mixed, case study, and action research.

3) A significant relationship was found between pre-service teachers' curriculum literacy and their preparedness to teach. The fact that the instructors working in teacher training institutions carry out activities based on the curriculum in their lessons will contribute to both the pre-service teachers' curriculum literacy and their preparedness to teach.

7. LIMITATIONS OF THE STUDY

In this study, the convenience sampling method, which is one of the non-probability sampling methods, was used. One of the limitations of this method is that a research result cannot be generalized to the research population. In addition, the fact that qualitative data were not used within the scope of the research can be expressed as a limitation. With qualitative data, the research results could be examined in more depth.

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