The Correlation Between Teacher Agency and Curriculum Literacy

Etken Öğretmenlik ile Öğretim Programı Okuryazarlığı Arasındaki İlişki[1]

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Abstract

Aim: The present study aimed to investigate the correlation between teacher agency and self-perceptions of the teachers about curriculum literacy and to determine whether the impact of curriculum literacy on effective instruction was significant

Design/Methodology/Approach: The study population included 961 teachers employed at public high schools in Bolu province urban center during the 2022-2023 academic year. The study sample included 365 teachers assigned with the convenience sampling method. The present study was conducted with the predictive correlational research design to explore the correlations between the selected variables; curriculum literacy (independent) and teacher agency (dependent). "Teacher Agency Scale" and "Curriculum Literacy Perception Scale" were employed to collect the study data. Statistical analysis of the collected data was conducted with correlation tests and multiple linear regression analysis.

Findings: The study findings revealed that the general perceptions of the teachers about agency and curriculum literacy were high. The correlational analysis indicated that there were positive and significant correlations between the teacher agency (learning agency, teaching agency, optimism, constructive engagement) and curriculum literacy (recognition of the curriculum, implementation of the curriculum, questioning the curriculum, and valuing the curriculum) factors. Regression analysis findings demonstrated that the curriculum literacy sub-dimensions significantly predicted teacher agency.

Öz

Çalışmanın amacı: Bu araştırmanın amacı, öğretmenlerin etken öğretmenlik düzeyleri ile öğretim programı okuryazarlıkları algı düzeyleri arasındaki ilişkinin incelenmesi ve program okuryazarlığının etken öğretmenlik üzerinde anlamlı bir etkisinin olup olmadığını ortaya çıkarılmasıdır.

Materyal ve Yöntem: Çalışmanın evrenini 2022-2023 eğitim-öğretim yılında Bolu il merkezinde Milli Eğitim Bakanlığı'na bağlı liselerde görev yapan 961 öğretmen oluşturmaktadır. Çalışmanın örneklemini, uygun örnekleme yöntemiyle belirlenen 365 öğretmen oluşturmaktadır. Araştırmada yordayıcı korelasyonel araştırma deseni kullanılmıştır. Çalışmada veri toplamak amacıyla "Öğretmen Failliği Ölçeği" ve "Öğretim Programı Okuryazarlığı Algı Ölçeği" kullanılmıştır. Elde edilen verinin istatistiki çözümlemeleri için Pearson ve Spearman Korelasyon testleri kullanılmıştır. Bağımsız değişken olan öğretim programı okuryazarlığının bağımlı değişken olan etken öğretmenliği yordama düzeyini tespit etmek amacıyla çoklu regresyon analizi yapılmıştır.

Bulgular: Araştırmanın sonuçlarına göre öğretmenlerin öğretim programı okuryazarlık ve etken öğretmenlik algılarının yüksek olduğu tespit edilmiştir. Öğretim programı okuryazarlığının alt boyutlarından olan programı tanıma, programı hayata geçirme, programa değer verme, programı sorgulama ile etken öğretmenliğin alt boyutları olan öğrenme etkililiği, öğretme etkililiği, iyimserlik ve yapıcı katılım arasında pozitif yönde anlamlı ilişki olduğu görülmüştür. Regresyon analizi sonuçlarına göre, öğretim programı okuryazarlığının alt boyutlarının etken öğretmenliği anlamlı düzeyde yordadığı görülmüştür.

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INTRODUCTION

In the current environment of rapid change, teachers are expected to cope with the challenges of change and be willing to cope (Van der Heijden et al., 2015). Transformation of the education system is quite difficult (Trilling & Fadel, 2009). The role of the teacher is prominent in the implementation of change in education. Thus, policies associated with the teachers have been among the most discussed issues in education in recent years. The same trend has been also observed in Turkey. Several regulations and curriculum justifications such as the Teacher Strategy Paper (2017), the General Competencies Framework for the Teaching Profession (2017), the 20th National Education Council (2021), the Law on Teaching Profession (2023) focused on the changes in the role of teachers and it was emphasized that further focus is required for the professional development of teachers.

The Teacher Strategy Document (Ministry of National Education [MEB], 2017) emphasized that teachers play a key role in efforts for change and aimed to ensure continuous personal and professional development of the teachers, improvement of the perceptions about the teaching profession, and strengthening the status of the occupation. The 20th National Education Council decisions addressed the improvement of teacher training and professional development, and recommended several strategies (MEB, 2021). Previous studies reported that the most factor in student achievement was the teacher among scholar factors (Darling-Hammond, 1997). Recognition of the significance of teachers during the implementation of educational reforms, development of local educational policies, and the increase in teacher identity studies led to the introduction and the significance of the concept of 'teacher agency' (Erdem, 2021).

Learning outcomes produced by the curricula that meet international and national standards are evaluated with international exams. The national results in these exams indicate the level of 21st century skills such as literacy, mathematical and scientific proficiency, and problem solving in particular countries. The scores of Turkish students in the exams organized by the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Survey (TIMMS) have been below the OECD averages. This demonstrated that there have been certain incorrect or inadequate policies in the education system. Posner (1995) argued that "Whenever there was a problem in education, the curricula have been altered." Since the Turkish scores were below the OECD country average, it has been considered an indicator and the curricula have been revised. The curricula of 16 primary and 15 secondary education courses were revised since the 2018-2019 academic year. It was argued that "the action plans adopted by the 64th and 65th governments, the international exam results, reports developed by various national and international institutions and organizations, and scientific literature" led to these revisions (MEB, 2020). Curricula could constantly change since these are living documents, and should reflect educational and social changes (Alsubaie, 2016) since the curricula should be consistent with dominant social trends and values (Ellis et al., 1987).

The consistency between the official curriculum developed by the policy makers and the curriculum in practice depends on the implementing teachers. Teachers act like an interface between the official and implemented curricula (Jenkins, 2018). The curricula reflect the changes in needs as well as in teacher training policies. To achieve the curriculum objectives, teachers should be prepared during teacher and in-service training. Due to changes in teacher roles, the teachers no longer transfer knowledge but facilitate learning (Biesta et al., 2015). This paradigm shift necessitates changes in teacher traits.

In recent years, there has been a trend towards teacher-oriented curricula in school-based curriculum development. The trend requires flexible and framework curriculum approach (Akpınar & Aydın, 2007). This trend has not yet been discussed adequately in Turkey. According to PISA 2015 report, the responsibility of the national administration in curriculum development was 77.3% in Turkey, the share of the school board, the school, and local administration in the determination of the educational content was 17.4 %, and that of the teachers was only 5.3%. The OECD average was 44.1%. The lack of teacher participation could explain the below-average student achievement in PISA and TIMMS exams to a certain extent. Contrary to Turkey, teacher participation in curriculum development has increased globally in recent years (Wiles, 2016).

In a constantly and rapidly changing education system due to changing requirements, the new roles of teachers and teacher proficiencies led to discussions on teacher identity. Since instruction agency is a part of teacher identity, the significance of the studies on this topic is evident. According to the ecological model proposed by Priestley et al. (2015) to understand teaching agency, the teachers' personal and professional experiences, short- and long-term goals, and current material, cultural, and structural factors lead to effective instruction. In other words, according to this approach, agency was not considered an innate capacity, but a phenomenon that depends on other factors. It was determined that a focus on the improvement of teachers' skills via teacher policies would not be sufficient, but the policies should also focus on the material, cultural, and structural attributes, namely the practical dimension of education based on the ecological model.

Active teachers participate in curriculum development, implementation, and evaluation (Hill, 2003). In the correlation between teacher agency and curriculum literacy, teacher agency should be improved to achieve the desired student achievements. It was observed that the participation levels of active teachers in professional learning activities are high, and active instruction is important for the effectiveness of scholar development activities that entail the professional development of teachers and student achievements (Liu et al., 2016). Thus, it could be suggested that policy makers should improve not only teacher policies but also other factors.

It has been claimed that the quality and quantity of research and publications on the professional development of teachers in Turkey have been inadequate (Bümen et al., 2012). Thus, the present study on teaching agency and its correlation with curriculum literacy, which has been a topic of debate in professional development of teachers, could contribute to the literature. In the

literature, there are certain studies that investigated each of these variables; however, there is no study that addressed the correlation between them.

The present study aimed to investigate the correlation between teacher agency and curriculum literacy perceptions of the teachers, and to determine whether curriculum literacy had a significant impact on teacher agency. Thys, the reseach question was determined as follows: "Is there a significant correlation between teacher agency and curriculum literacy?"

1. Is there a significant correlation between teacher agency and curriculum literacy sub-dimensions?
2. Are the curriculum literacy sub-dimensions (curriculum knowledge, implementation, valuation, and questioning) significant predictors of teacher agency?

METHOD

Research Design

The present study that aimed to investigate the correlation between teacher agency levels and curriculum literacy perceptions of the teachers, and to determine whether curriculum literacy had a significant impact on teacher agency, was conducted with the quantitative research method and correlational research design. The aim of the study could be to determine the correlations between certain variables instead of controlling the independent variable similar to empirical studies. Thus, the research was conducted with the correlational approach (Creswell, 2017).

Correlational studies are conducted either to explain significant human behavior or predict possible outcomes (Fraenkel et al., 2022). Thus, two correlational research methods have been developed: explanatory and predictive. In predictive design, the authors attempt to understand the outcomes with certain predictor variables rather than simply determining the correlations between the variables (Creswell, 2017). In the present study, the predictive correlational research design was adopted since it aimed to determine whether curriculum literacy had a significant impact on teacher agency.

Population and Sample

The accessible population of the present study that aimed to investigate the correlation between teacher agency levels and curriculum literacy perceptions of the teachers included 921 teachers employed in public high schools in the Central District of Bolu Province during the 2022-2023 academic year. A review of national and international high school exams revealed significant problems in the academic achievements of the students in the country (Sezgin et al., 2016). Thus, the authors decided to conduct the current study with high school teachers.

The assignment of the study sample depends on variables such as research design, budget, time, and control requirements (Büyüköztürk et al., 2021). It is often difficult, sometimes impossible, to assign a random or systematic non-random sample. In these cases, a researcher could employ the convenience sampling method (Fraenkel et al., 2022). In the current study, the convenience sampling method was adopted since the Bolu Provincial Directorate of National Education allowed scientific studies in certain schools.

Gürbüz and Şahin (2014) determined that to conduct the study within the 95% confidence level and 5% margin of error, the study should be conducted with 278 subjects in a population of 1000. Thus, 375 teachers were contacted in the study. The data collected from 10 teachers out of the 375 teachers were excluded from the analysis since these were invalid, and the analysis was conducted on the data collected from the remaining 365 teachers.

Data Collection Instrument

The present study data were collected with the "Curriculum Literacy Perception Scale (CLPPS)" developed by Keskin (2020) and the "Teacher Agency Scale (TEAS)" developed by Liu et al. (2016) and adapted to Turkish culture by Bellibaş et al. (2019). The psychometric properties of the data collection instruments are included in the next section.

Data Analysis

Initially, the frequencies of the study variables were analyzed to prevent transcription errors during the digitalization of the measurements, and the identified errors were corrected. Furthermore, the data of the participants who provided random responses to the scale questions or did not respond to most items were excluded from the analysis. After the review of the data, missing data and outliers were determined, multivariate normality, multicollinearity, and linear correlations between the variables were analyzed before the CFA analysis to test for the validity of the measurements. First and second level CFA analyses were conducted based on the measurement models described in the original scales. Second level CFA analysis was conducted to evidence the total scale score.

Correlation and multiple linear regression analyses were employed in the study. Cronbach Alpha (α), Stratified Cronbach Alpha and McDonald's Omega (ω) coefficients were calculated to determine the reliability of the measurements. Cohen (1988) threshold presented in Table 3.12 was employed to analyze the correlation. The analyses were conducted with the SPSS (29.0), Jamovi 2, and JASP software. A .05 alpha value was accepted as statistically significant.

FINDINGS

1. Is there a significant correlation between teacher agency and curriculum literacy sub-dimensions?

In this sub-problem, the correlation between the CLPPS and TEAS scores of the teachers was analyzed. Initially, the correlation between the total scale scores was analyzed, and then the correlations between the scale sub-dimensions were analyzed.

Initially, the linearity of the correlation between the total scale scores was investigated. Scatter plots of the total CLPPS and TEAS scores are presented in Figure 1.
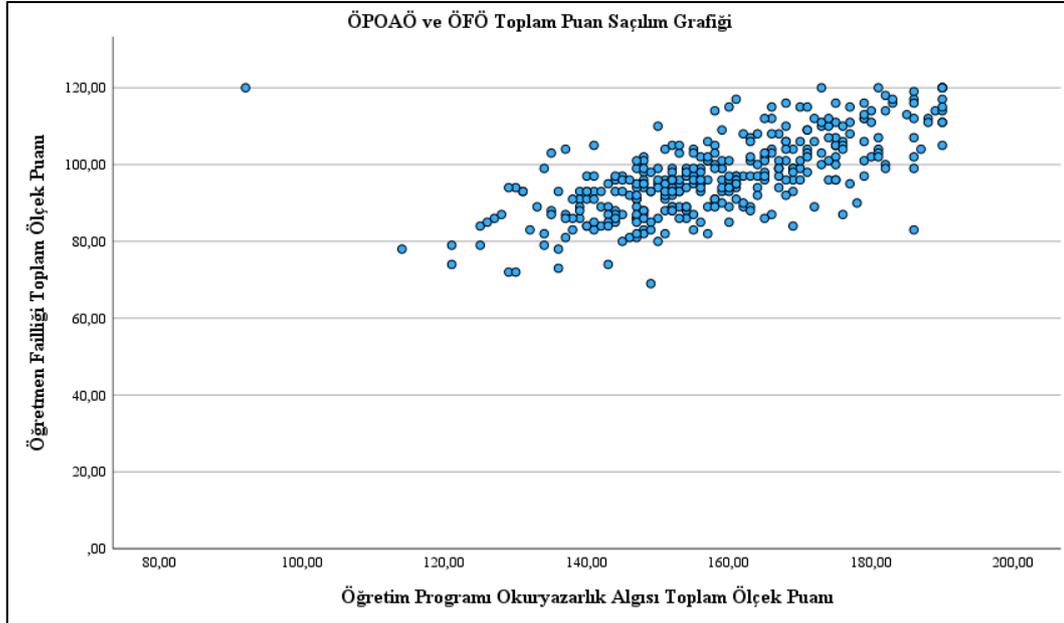

Figure 1. Total CLPPS and TEAS score scatter plot

As seen in Figure 1, there was a linear correlation between the total CLPPS and TEAS scores of the teachers. Furthermore, it was determined that the correlation between the scores suggested covariance. Furthermore, the kurtosis and skewness coefficients of the total scale scores demonstrated that the total scores exhibited normal distribution. Thus, the correlation between the total scale scores was analyzed with the Pearson product-moment correlation coefficient, since it supported the required assumptions. Pearson correlation coefficients for the total CLPPS and TEAS scores are presented in Table 4.5.

Table 1. Pearson correlation coefficients for the total CLPPS and TEAS scores

Variable	1	2
Total CLPPS score	--	,671**
Total TEAS score	,671**	--

**p< ,001

As seen in Table 1, there was a statistically significant, high, and positive correlation between the total CLPPS and TEAS scores (r=.671; n=362; p<.001).

Since the CLPPS and TEAS scale subdimension scores did not exhibit normal distribution, the correlations between the sub-dimensions were analyzed with the Spearman's Rank Correlation Coefficient. The correlations between the four CLPPS and TEAS scale sub-dimensions are presented in Table 2.

Table 2. Spearman's Rank Correlation Coefficients for the CLPPS and TEAS scale subdimension scores

	Variable	1	2	3	4	5	6	7	8
ÖPOAÖ	1.Curriculum knowledge	--							
	2.Implementation	,798**	--						
	3.Valuation	,725**	,751**	--					
	4.Questioning	,677**	,615**	,568**	--				
ÖFÖ	5. Learning agency	,464**	,475**	,417**	,474**	--			
	6.Teaching agency	,549**	,535**	,439**	,492**	,447**	--		
	7.Optimism	,357**	,354**	,292**	,360**	,355**	,499**	--	
	8.Active participation	,636**	,629**	,504**	,534**	,502**	,619**	,520**	--

**p< ,001

As seen in Table 2, the highest positive and statistically significant correlation between the CLPPS subdimensions was between the curriculum knolwedge and implementation sub-dimensions (r=.798; n=362, p<.001). The lowest statistically significant correlation was between the valuation and questioning subdimensions (r=.568; n=362, p<.001).

The highest positive and statistically significant correlation between the TEAS subdimensions between the instruction agency and constructive participation (r=.619; n=362, p<.001). The lowest statistically significant correlation was between the learning agency and optimism dimensions (r=.355; n=362, p<.001).

It was observed that the Spearman's Rank Differences between the CLPPS and TEAS sub-dimensions varied between 0.292 and 0.636 and all coefficients were positive and statistically significant (p<.001). The highest statistically significant positive correlation was between the constructive participation and curriculum knowledge sub-dimensions (r=.636; n=362, p<.001). The lowest statistically significant positive correlation was between the optimism and valuation sub-dimensions (r=.292; n=362, p<.001).

2. Are the Curriculum Literacy Sub-Dimensions (Curriculum knowledge, Implementation, Valuation, and Questioning) Significant Predictors of the Total Teacher Agency Score?

In this sub-problem, whether the CLPPS subdimensions predicted the total TEAS scale scores was investigated with regression analysis. Initially, the regression analysis requirements and assumptions were tested. Thus, evidence is presented about the independence of observations, the linear correlations between dependent and independent variables, homoscedasticity, multicollinearity, normal distribution of errors, and the significant outlier analysis.

The Durbin-Watson statistics that reflect the independence of observations was calculated as 1.766. A Durbin-Watson statistic of approximately 2 indicates no correlation between the errors. Thus, it could be suggested that the errors were independent. The scatter plot of the linear correlations between the dependent variable, the TEAS total score, and the independent variables, namely the CLPPS sub-dimension scores.

Table 3. Scatter plot of total TEAS scale score and CLPPS sub-dimension scores
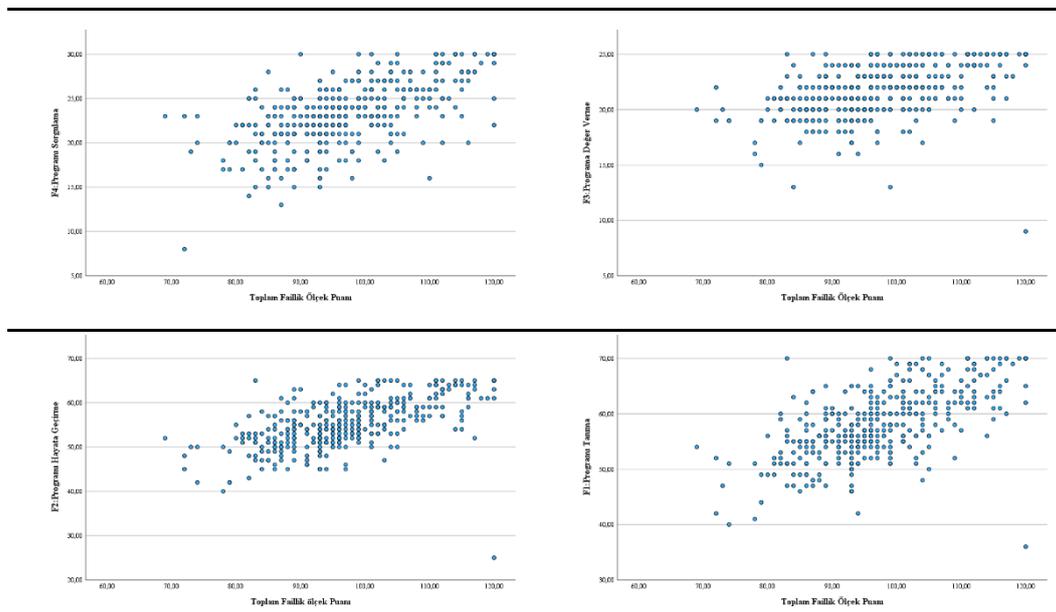
As seen in Table 3, there was a linear correlation between the total TEAS score and the curriculum knowledge, implementation, valuation, and questioning dimensions of curriculum literacy. Similarly, regression standard errors histogram and the normal P-P regression standard errors presented in Figure 2 demonstrated that the regression curve errors exhibited an almost normal distribution.
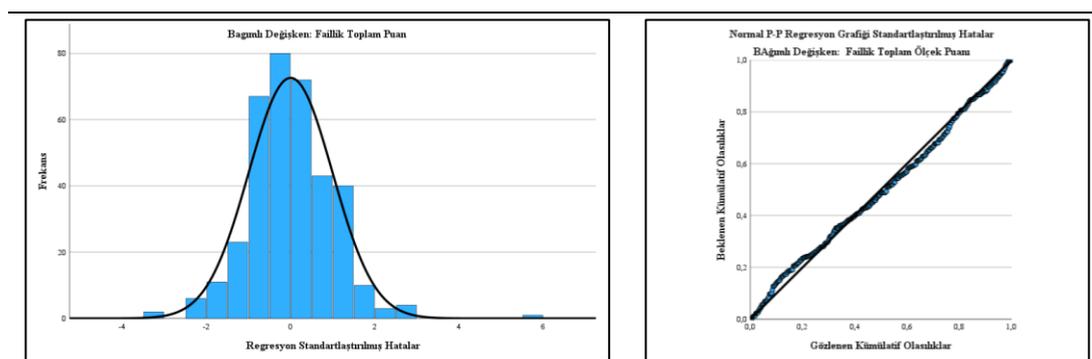

Figure 2. Regression standard errors histogram and the normal P-P regression

Furthermore, homoscedasticity, a significant linear regression assumption, was tested for error variances across all independent variable values. The scatter plot for non-standard prediction errors and standard errors is presented in Figure 3.
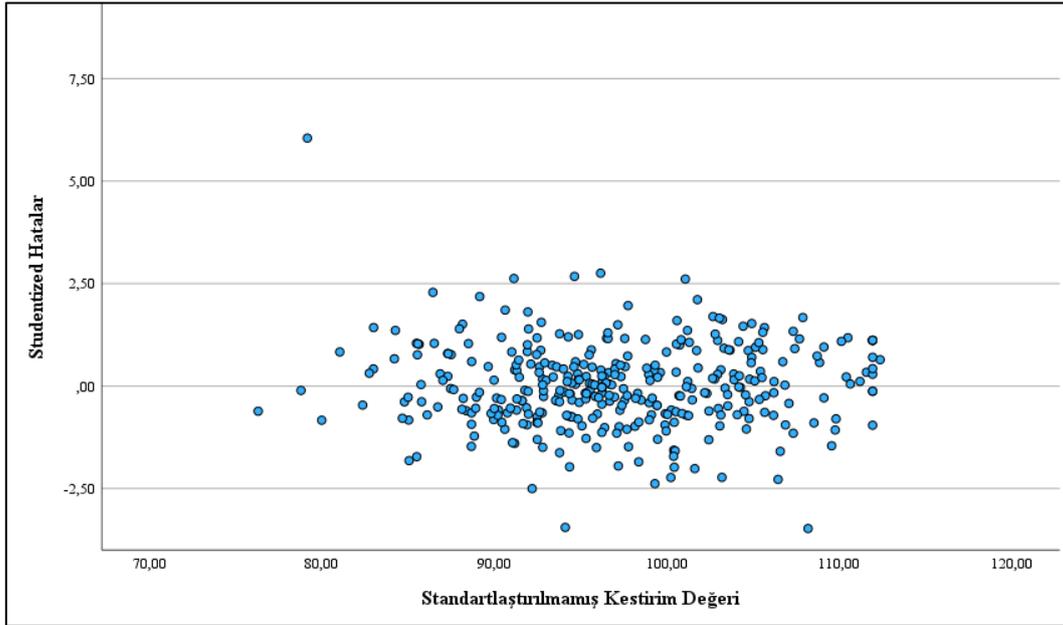

Figure 3. Scatter Plot for Non-standard Prediction Errors and Standard Errors

As seen in Figure 3, the errors exhibited covariance. Since it is another assumption of linear regression, the multicollinearity across the variables was investigated. The calculated Tolerance and VIF values are presented in Table 4.

Table 4. Tolerance and VIF for the dependent variable TEAS and independent variables

Independent variable	Tolerance	VIF
Curriculum knowledge	,271	3,686
Implementation	,272	3,678
Valuation	,380	2,631
Questioning	,572	1,750

As seen in Table 4, the tolerance varied between 0.271 and 0.572, and the VIF varied between 1.750 and 3.686. Hair et al. (2014) suggested that when the tolerance is lower than 0.1 (i.e., when the VIF is greater than 10), there could be multicollinearity. The table demonstrated that the calculations were lower than the reference values and there was no multicollinearity. Thus, it was determined that all multiple linear regression requirements were evidenced.

Multiple linear regression analysis was conducted to determine the prediction power the curriculum knowledge, implementation, valuation, and questioning scores on the total TEAS score. The multiple linear regression ANOVA test findings are presented in Table 5.

Table 5. Multiple linear regression ANOVA findings

Model		Sum of squares	sd	Mean of squares	F	p
	Regression	18314,92	4	4578,73	86,06	<,001b
	Error	18994,98	357	53,21		
	Total	37309,90	361			

As seen in Table 5, the curriculum knowledge, implementation, valuation, and questioning sub-dimensions statistically significantly predicted the total TEAS score [$F_{(4,357)}=86.06$, $p<.001$].

Multiple regression findings for the total TEAS score are presented in Table 6.

Table 6. Multiple regression findings for the total TEAS score

Total TEAS score	B	For B %95 CI		SH B	β	R^2	ΔR^2
		Lower limit	Upper limit				
Model						0,491	0,485
Constant	33,422**	25,578	41,267	3,989			

Total TEAS score	B	For B %95 CI		SH B	β	R^2	ΔR^2
		Lower limit	Upper limit				
Curriculum knowledge	0,593**	0,365	0,822	0,116	0,370**		
Implementation	0,358	0,095	0,621	0,134	0,194		
Valuation	-0,576	-1,093	-0,059	0,263	-0,134		
Questioning	0,936**	0,657	1,214	0,142	0,330**		
Total TEAS score = 33,422 + (0,593 x C. Knowledge) + (0,358 x Implementation) - (0,576x Valuation) + (0,936 x Questioning)							

**p< ,001

It was determined that R^2 of the regression model was 0.491 and the ΔR^2 was 0.485. In other words, the CLPPS sub-dimensions explained 48.5% of the total variance in the TEAS score. According to Cohen (1988), this indicated a large effect size. The non-standard regression coefficients presented in Table 4.10 demonstrated that the constant, curriculum knowledge and questioning variables were statistically significant (p<.001). The implementation and valuation sub-dimensions were not statistically significant in the model. However, the confidence intervals for these coefficients demonstrated that they did not include a zero (GAP.Implementation=[0.095; 0.621], GAP.Valuation=[-1.093;-0.059]). Thus, it was determined to keep these factors in the model.

DISCUSSION

The present study aimed to determine the perceptions of high school teachers about their teacher agency and curriculum literacy levels, and the correlation between these two variables. In the present section, the present study findings are compared with the reports in the literature.

In the study, teacher agency was analyzed based on four dimensions: learning agency, teaching agency, optimism and constructive participation of the teacher. Learning agency includes the teacher's efforts in occupational learning and learning even under adverse conditions. Teaching agency includes the teacher's enthusiasm in instruction and leaning of the students. The optimism dimension reflects the teacher's general optimism, a personality trait. The constructive participation dimension is associated with setting goals and the teacher's efforts to achieve these goals.

The study findings associated with the first sub-problem demonstrated a correlation between the perceptions of the teachers about their teacher agency and curriculum literacy levels. The correlation analysis revealed a positive and significant correlation between the curriculum literacy scale sub-dimensions, namely curriculum knowledge, implementation, valuation, and questioning, and teacher agency. Thus, as the teachers knew more, implemented, valued, and questioned the curriculum, their teacher agency improved. It could be suggested that there was a positive and significant correlation between the teacher agency scale and curriculum literacy scale sub-dimensions. The highest correlation was between constructive participation and curriculum knowledge sub-dimensions, and the lowest correlation was between optimism and valuation sub-dimensions.

Aşçı and Yıldırım (2020) investigated the correlation between teacher agency and curriculum commitment and concluded that teachers with high agency exhibited the similar curriculum commitment levels. Although curriculum commitment and teacher agency could be perceived as opposites, they argued that a broad approach could facilitate their implementation. They also argued that the inclusion of teachers in curriculum development would increase the implementation, and their inclusion in the design of the curriculum would improve their agency. Thus, constructive participation could be considered a dimension of teacher agency. Dilek (2020) reported a positive and significant correlation between curriculum literacy of pre-service teachers and their pedagogical knowledge and skills. Since pedagogical knowledge and skills could be considered a dimension of teaching agency, a sub-dimension of teacher agency, it could be suggested that the present study findings were consistent with the above-mentioned finding.

The study findings associated with the second sub-problem demonstrated that curriculum literacy predicted teacher agency. In the regression analysis, the regression table about the predictive power of curriculum literacy on teacher agency was analyzed and interpreted. The curriculum literacy scale subdimension scores statistically significant predicted the total teacher agency scale score. The CLPPS subdimensions explained 48.5% of the total variance in the TEAS score. The regression coefficients demonstrated that the curriculum knowledge and questioning sub-dimensions were statistically significant, while the implementation and valuation sub-dimensions were not statistically significant.

The literature review revealed no empirical study on a direct correlation between teacher perceptions about teacher agency and curriculum literacy. However, theoretical studies suggested a theoretical correlation (Erdem (2021). Empirical studies have been conducted on the curriculum literacy levels of the teachers based on various sub-dimensions. Various variables have been compared in studies on teacher agency. In the present study, it was determined that there was a high, positive, and significant correlation between teacher perceptions about their teacher agency and curriculum literacy levels. When the teachers play a key role in curriculum development, or in "doing" as Priestley et al. (2022) put it, this could positively affect their agency perceptions. Furthermore, this correlation could also be approached from the opposite direction (Priestley et al., 2022). A teacher with high

perceptions about teacher agency would participate more actively in curriculum development and design, which is critical factor in the quality of instructional activities. Due to the duality of the correlation, further studies should be conducted on both concepts to facilitate occupational development of the teachers. This approach could lead to certain changes in undergraduate teacher training. It could also lead the policy makers to prioritize the development of these qualifications in in-service training. Furthermore, the emphasis on the acquisition of these skills by the teachers would allow school administrators to provide an adequate school climate to support personal development of the teachers, which would in turn promote curriculum literacy and teacher agency of the teachers.

An active teacher in the classroom means that the teacher takes actions for change based on the existing conditions. For example, when the current curriculum, material, etc. are not compatible with the student dynamics, the teacher would need to adopt the curriculum. Curriculum literacy is a support instrument in this process. It would allow the teacher to easily identify the problems in the curriculum and benefit from this skill in the implementation and adaptation activities. Thus, the teacher would employ curriculum literacy for teacher agency.

CONCLUSION AND RECOMMENDATIONS

This section includes the findings study and recommendations for future research and applications based on these findings.

1. The present study aimed to investigate the perceptions of high school teachers about teacher agency and curriculum literacy and the correlation between these variables. National literature review revealed only a few studies on teacher agency. The number of studies on curriculum literacy was higher when compared to that of the studies on teacher agency. However, no previous study addressed the correlation between these two concepts.

2. It was concluded that teacher perceptions about agency and curriculum literacy were generally high.

3. The correlation analysis revealed that there was a significant correlation between teacher agency and curriculum literacy.

4. It was also determined that teachers with high curriculum literacy also exhibited high teacher agency perception. This finding was consistent with the findings on the final study sub-problem.

5. Curriculum literacy sub-dimension scores predicted teacher agency.

6. In the study, teacher agency and curriculum literacy findings were based on the perceptions of the teachers; thus, the comparison of these findings with the findings of the studies conducted with different designs would improve the reliability of the study findings. One of the important limitations of the study was the employment of self-report scales. These, the high finding levels should be investigated in future comprehensive qualitative studies.

Based on the above-mentioned findings, the following could be recommended:

1. In-service training programs could be organized to improve the perceptions of the teachers about learning agency.

2. Further incentives could be introduced for teachers to pursue master's and pHD degrees in educational science faculties.

3. An in-service training program could be introduced to improve active participation of the teachers in curriculum development.

4. School administrations could be encouraged to create more participatory school environments to increase teacher participation in the improvement of education and instruction quality at schools.

5. In the present study, the correlation between teacher agency and curriculum literacy perception levels of the teachers employed in public high schools in the central district of Bolu province was investigated. The scope of the study could be expanded and the correlation between teacher agency and curriculum literacy perception levels of primary and secondary school teachers in other provinces could be investigated.

Declaration of Conflicting Interests

Funding

Statements of publication ethics

We hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

Examples of author contribution statements

A.B. and A.A. conceived of the presented idea. A.B. developed the theory and performed the computations. A.B. and A.A. verified the analytical methods. A.A. encouraged A.B. to investigate problem posing and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

Researchers' contribution rate

The study was conducted and reported with equal collaboration of the researchers.

Ethics Committee Approval Information

The study was approved by the Bolu Abant Izzet Baysal University Social Sciences Ethics Committee (No: 2022-385; date: 26.10.2022).

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