

Critical Reading Self Efficacy and Information Pollution on the Internet: Preservice Teachers' Perceptions

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Abstract

The purpose of this research was to examine the critical reading self-efficacy (CRSE) perceptions of prospective teachers and their awareness of information pollution on the internet. A relational survey model was utilized in the research. The study sample, whose universe was prospective teachers studying at Kilis 7 Aralık University, consisted of 296 teacher candidates and was determined using the simple random sampling method. The data were collected through the "Critical Reading Self-Efficacy Perception Scale" and the "Information Pollution on the Internet Scale." The data analysis was done by calculating the arithmetic mean and standard deviation values, t-test, ANOVA, and Pearson correlation analysis. The results showed that prospective teachers' self-efficacy perceptions for critical reading are high. The variables of gender and the number of books read in the previous year were not determinative in the perception of critical reading self-efficacy. It was also found that the variables of the department, year of study, and participation in online activities affect perceptions of prospective teachers' self-efficacy. In addition, their awareness of information pollution on the internet is above the medium level. It was determined that the variables of gender, department, year of study, number of books read in the previous year, and online activities did not have a decisive effect on awareness of information pollution on the internet. The correlation analysis showed that the sum of the scales was not related to each other, but there was a positive relationship in the sub-dimensions. Suggestions for future research and practitioners were provided.

Keywords: Critical reading, Infollution on the internet, Prospective teachers, Self-efficacy

Introduction

The production and dissemination of information increased by the developments in technology. In particular, the proliferation of social media technologies and platforms, called mini-blogs, made it possible to develop and freely share products such as photographs, texts, and videos. According to research, 2.5 billion GB of information is produced daily in the world and this ever-increasing production leads to an information disaster as well as problems such as climate and environment (Vopson, 2020).

According to Marr (2018), 3.7 billion people use the internet and 40,000 searches are done on Google every second. Considering other search engines, 5 billion searches are performed daily worldwide. The number and amount of content produced per minute on different social media platforms are increasing (Ali, 2020; Bulao, 2021). The facilitation of internet access made it a part of life and as a result, information production and sharing on the internet increased. Because there is no control mechanism on the internet, the validity and accuracy of the information are controversial. Intense information production and sharing brought about information pollution, which is also called infollution. Everyone's production and sharing of information also leads to infollution and ultimately to manipulation of individuals and groups.

Review of Literature

Infollution on the Internet

Undesired messages and irrelevant information create information pollution, which is also called infollution, and it is defined as the information which is less important, irrelevant, unconfirmed, unreliable, lacking accuracy and precision (Wang et al., 2012, as cited in Iqbal et al., 2018). With the widespread use of the internet, infollution was transferred to the online environment such as web pages, blogs, and social media platforms. The production and spread of information on the internet also revealed the concept of infollution on the internet. Meel and Vishwakarma (2020) exemplify the different formats of infollution on the internet: Rumour, hoax, propaganda, disinformation, misinformation, opinion spam, fake news, and satire. Foça (2016), on the other hand, states that common types of misinformation include parody, distortion, imitation, manipulation, decontextualization, erroneous association, and fabrication. In today's world, where the internet is used widely and intensively to access information and communication, it is necessary to fight against infollution. When the strategies to combat infollution on the internet are analyzed (Foça, 2019), it is seen that these point to critical thinking and critical reading. There are studies to combat infollution in companies (Iqbal et al., 2018). Yuan (2019) states that it is difficult to control the internet and warns that university students may be exposed to inaccurate information.

According to the results of Kurt and Emiroğlu's (2018) research, it was found that the scores of participants on "the information pollution on the internet scale" were above the average. According to another result of the same research, it was seen that the infollution that the teacher candidates encountered on the internet was caused by the environment and not by personal reasons.

Firat and Kurt (2008) and Kurt and Firat (2012), searching the opinions of prospective teachers about infollution on the internet, found that teacher candidates lost time due to the presence of unnecessary, incorrect, and outdated information on the internet. As a result, this affected them negatively.

The research on infollution on the internet revealed that pollution causes difficulties in reaching

the correct information and causes individuals to lose time. Combating infollution on the internet, that is, distinguishing correct and current information from outdated and invalid information, can be achieved by developing critical reading and thinking skills and technical skills. So, individuals need critical reading skills to reach accurate information. Today communication opportunities increased and access to information has become easier according to the use of information technologies. Especially the widespread use of the internet increased the amount of information available. The fact that everyone can easily produce and share information on the web also caused infollution. Among the information that can be accessed on the internet, besides the correct information, there is also false and provocative information, creating information pollution. In the process of Covid-19, infollution came to the fore, especially false, incomplete, and misleading information about viruses and vaccines often spread on the internet and reached levels that threaten people's health. Likewise, with online education, the issue of fighting against infollution on the internet became crucial. An important method of combating infollution on the internet is the development of critical reading skills.

Critical Reading

Critical reading is the skill of "the reader's judgment and questioning of what s/he reads, in other words, making a judgment using his/her mind" (Özdemir, 2018, p. 18). According to Kurland (2010, para. 2), critical reading is "an analytical activity, and the reader rereads a text to identify patterns of elements (knowledge, values, assumptions, and language use) throughout the discussion. These elements are linked together in an interpretation that is an expression of an underlying meaning of the text as a whole." Karadeniz (2014, p. 115) defines critical reading as "a person's evaluation, questioning, explanation of a text s/he encounters and coming to a conclusion based on these skills and his/her previous knowledge."

Critical reading skills should not be considered only academically. It is a skill that affects the whole life of individuals. As Çifti (2006, p. 58) states, "any reader who cannot acquire critical reading skills

may fall into informatics ignorance as s/he reads.” With the development of information technologies, individuals are exposed to information bombardment, and correct, incorrect, and incomplete information is circulating on the internet. To filter this information through the mind, critical reading skills must be acquired. 21st-century skills gained importance within the scope of infollution and critical reading. It is necessary to acquire skills such as digital literacy and critical thinking (Battelle for Kids, 2019) within the scope of combating infollution on the internet, as well as the skills necessary to exist as an active member of both local and global society and to be a part of the economic system.

One of the most basic 21st-century skills is “Critical thinking and problem solving” skills, which are under the theme of learning and innovation. In addition, it can be stated that information, media, and information technology literacy skills are among the necessary skills to reduce the effects of infollution on the internet.

The education system, and especially teachers, have great responsibilities to educate generations within the scope of 21st-century skills, to enable them to be active members of society and to prepare them for a democratic environment (Aşılıoğlu, 2008). In this context, the importance of teacher education is increasing and the need for teachers to constantly renew and improve themselves is also increasing.

The critical reading skills of the education faculty students, who are the teachers of the future, gain importance in terms of acquiring the 21st-century skills of the new generation and raising awareness against infollution on the internet. As Aşılıoğlu (2008) expresses, “the most important factor for students to acquire and develop critical reading skills is the teacher” (p. 10). Self-efficacy, which is defined as “the sensory awareness of an individual’s belief in the capacity to organize and successfully perform the necessary activity to show a certain performance” (Bandura as cited in Küçüköğlü, 2008, p. 8), can be effective in planning and implementing the teaching environment.

When the literature on prospective teachers and critical reading is analyzed, it is seen that different researchers conducted studies on the subject. In their study, Aşılıoğlu and Yaman (2017) found that

teacher candidates’ perceptions of critical reading were moderate and female teacher candidates’ perceptions were higher. According to the study results, there is a positive relationship between the frequency of reading books and critical reading. According to Karasakaloğlu et al.’s (2012) study, prospective teachers’ critical reading self-efficacy (CRSE) perception levels are low. According to Akdan’s (2016) study, female Turkish language teacher candidates have high CRSE. However, in the study of Aybek and Aslan (2015), it was concluded that the gender and year of study of teacher candidates did not make any difference in terms of CRSE perception. Kılavuz (2020) found that senior teacher candidates had higher scores, but contrary to the study of Aşılıoğlu and Yaman (2017), the frequency of reading books did not make a difference in the perception of CRSE. According to the results of Çelik et al.’s (2017) study, online discussion practices positively contributed to teacher candidates’ critical reading skills and CRSE perceptions.

As a result of new developments in information and communication technologies, the extraordinary increase in information production and sharing revealed the concept of infollution on the internet. Fighting against infollution on the internet can only be possible by developing individuals’ critical reading skills. Because children are more exposed and affected by infollution on the internet (Kurt & Kürüm, 2010), the importance of education and especially teachers come to the fore. In the studies conducted on the perceptions of infollution on the internet, it can be said that the teacher candidates who are experienced and feel competent in using technology are less affected by the infollution (Firat & Kurt, 2015). Critical reading becomes so crucial that teachers, who have the most important role in planning and implementing teaching, should be educated with this awareness and equipped with the necessary skills. Although there are studies on the CRSE of teacher candidates in the literature, no study has been found that examines teacher candidates’ CRSE in terms of infollution on the internet. Identifying future teachers’ perceptions of infollution on the internet and CRSE levels may enable them to be better educated and thus better educate the next generation as better teachers.

For this reason, it is considered that the study will contribute to the literature.

Materials and Methods

The purpose of this study was to analyze prospective teachers’ awareness of infollution on the internet and their perception of CRSE according to gender, department, year of study, number of books they read, and participation in online activities. The sub-purpose of the study was to analyze whether there was a relationship between teacher candidates’ awareness of infollution on the internet and their CRSE perceptions.

Method

This study was conducted to examine the CRSE perceptions of teacher candidates and their awareness of infollution on the internet. The quantitative relational screening model was used to collect data. According to Karasar (2008), in screening design, there is a description of situations that happened in the past or that are still happening. In the relational screening model, it is possible to reveal the relationships between the variables and to predict the possible results (Karasar, 2008). In the current study, the CRSE perceptions of teacher candidates and their awareness of infollution on the internet were determined. It was revealed whether there was a relationship between them.

Universe and Sample

The universe of the research consists of prospective teachers at Kilis 7 Aralık University, Faculty of Education. The sample was determined by a simple random sampling method (Korkmaz, 2020), in which each member has an equal chance of being a sample and it consists of 296 teacher candidates studying at 7 different departments. Information about the teacher candidates included in this study is provided in Table 1:

Table 1: Information about Participants

		f	%
Gender	Male	70	23.64
	Female	226	76.35
	Total	296	100

Department	Science Education	9	3.04
	Mathematics Education	5	1.68
	Preschool Education	39	13.17
	Psychological Counselling and Guidance	13	4.39
	Primary Education	100	33.78
	Social Studies Education	53	17.90
	Turkish Language Education	77	26.01
	Total	296	100
Year of Study	1	68	22.97
	2	87	29.39
	3	86	29.05
	4	55	18.58
	Total	296	100

Data Collection Tools and Data Collection

The “Critical Reading Self-Efficacy Scale” developed by Karadeniz (2014) was used to reveal the CRSE perceptions of teacher candidates. The scale consists of 5 sub-dimensions and 33 items. The Cronbach Alpha reliability coefficient value was calculated to be .93 (Karadeniz, 2014). As a result of the analysis done in the current study, the reliability coefficient of the scale was calculated as .95.

The “The Information Pollution on the Internet Scale” prepared by Firat and Kurt (2015) was used to find the awareness of teacher candidates about infollution on the internet. The Cronbach Alpha reliability coefficient value of this scale, consisting of 2 factors with 20 items, was calculated as .85 (Firat & Kurt, 2015). In the current study, the reliability coefficient was found as .88. A reliability coefficient of 0.70 and over is considered sufficient (McMillan & Schumacher, 2010). Since both scales have appropriate reliability coefficients, it was decided to use them in the study. The inversion process was used for the negative items in the scales. The scales were delivered to the teacher candidates via Google Forms after getting research permission from the Internal Review Board of Kilis 7 Aralık University.

Data Analysis

The data were analyzed using SPSS. To decide which analysis should be used, first of all, a normality test was performed for the data. As a result of the analysis done by calculating the Skewness and Kurtosis values, it was found that the values were between -1.50 and + 1.50. Since it was determined that the data were normally distributed, t-test, ANOVA, and Pearson correlation, which are among the parametric tests, were used for the analysis. In addition, the arithmetic mean and standard deviation values were calculated.

Results

In this part of the study, the arithmetic averages and standard deviation values of teacher candidates' CRSE and perception scores of infollution on the internet are given. In addition, the effects of gender, year of study, department, the number of books read, and participation in online conferences on CRSE perception and awareness of infollution on the internet were tried to be determined.

Table 2: Arithmetic Mean and Standard Deviation Values of Teacher Candidates' CRSE Perception Scores

Factors	\bar{X}	ss
Questioning	3.87	.42
Analysis	3.96	.52
Evaluation	3.99	.53

Similarity	3.98	.50
Inference	3.82	.55
General	3.92	.44

In Table 2, the arithmetic averages of teacher candidates' CRSE perceptions are provided. According to the data in the table, it is seen that the sub-factor averages for teacher candidates' CRSE perceptions are high. Depending on the sub-factors, critical reading general self-efficacy perceptions are also high. Based on these data, it can be said that the CRSE perceptions of the teacher candidates are positive.

Table 3: T-Test Results of Teacher Candidates' Perceptions of CRSE according to Gender

Gender	N	\bar{X}	ss	t	p
Male	70	3.88	.50	1.006	.315
Female	226	3.94	.42		

Table 3 shows the results of the analysis on the effect of gender on teacher candidates' CRSE perceptions. As a result of the analysis, it is seen that gender does not have a significant effect on the perception of CRSE ($t=1.006$ $p>0.05$). The arithmetic average of prospective female teachers (3.94) is higher than the arithmetic average of prospective male teachers (3.88). Still, this difference is not big enough to allow gender to affect the perception of CRSE.

Table 4: Variance Analysis of Teacher Candidates' Perceptions of CRSE according to Department

Department	N	\bar{X}	SS	VK	KT	sd	KO	F	p	Difference
Preschool	39	3.89	.38	AG	2.071	4	.518	2.654	.033	Turkish Lang.-Primary-Social Studies Edu.
Primary	100	3.87	.31	WG	56.774	291	.195			
Social Studies	53	3.83	.58	T	58.844	295				
Turkish Language	77	4.05	.50							
Others	27	3.96	.38							

Others= Science Education, Mathematics Education, Psychological Counselling and Guidance

A statistically significant difference emerged as a result of the analysis of variance ($F=2.654$ $p<0.05$) regarding the CRSE perceptions of the teacher candidates according to the departments. Based on the results of the LSD test, it was found that it is in the direction of Turkish language education-Primary

education and Social studies education. These data show that teacher candidates studying in the Turkish language education department have a more positive perception of CRSE than teacher candidates studying in primary education and social studies education.

Table 5: Variance Analysis of Teacher Candidates' Perceptions of CRSE according to Year of Study

Year of Study	N	\bar{X}	SS	VK	KT	sd	KO	F	p	Difference
First Year	68	3.99	.44	AG	2.156	3	.719	3.701	.012	4- 2, 3
Second Year	87	3.85	.38	WG	56.689	292	.194			
Third Year	86	3.85	.48	T	58.844	295				
Fourth Year	55	4.06	.43							

In Table 5, the results of the variance analysis regarding the CRSE perceptions of the prospective teachers according to the class variable are given. As a result of the analysis ($F=3.701$ $p<0.05$), a statistically significant difference emerged. To explore the direction of the difference, the LSD test

was performed and it was found that the difference was in the direction of fourth year-Second year and third year. According to these results, fourth-year teacher candidates have a more positive perception of CRSE than second and third-year teacher candidates.

Table 6: Variance Analysis of CRSE Perceptions According to the Number of Books Read by Teacher Candidates in the Previous Year

Number of Books Read	N	\bar{X}	SS	VK	KT	sd	KO	F	p
1-5	71	3.81	.44	AG	2.173	6	.362	1.847	.090
6-10	84	3.91	.38						
11-15	52	3.96	.48	WG	56.671	289	.196		
16-20	31	3.93	.43						
21-25	23	3.99	.26	T	58.844	295			
26-30	5	3.84	.26						
31 and more	30	4.11	.35						

A statistically significant result cannot be obtained from the variance analysis of prospective teachers' CRSE perceptions according to the variable of the number of books they read last year ($F=1.847$ $p>0.05$). The arithmetic average of the students who read 31 or more books last year is higher than the others. However, this result does not cause a

significant difference. Based on the data obtained as a result of the analysis, it can be said that the number of books read by the prospective teachers does not affect the CRSE perceptions significantly. The fact that all prospective teachers have a high level of CRSE perception may have revealed this result.

Table 7: T-Test Results of Teacher Candidates' Perceptions of CRSE According to Participation in Online Activities

Participation in online activities (Conferences, seminars, etc.)	N	\bar{X}	ss	t	p
Yes	220	3.95	.41	1.977	.049
No	76	3.84	.53		

Table 7 shows the results of the analysis on the effect of the variable of participation in online activities such as conferences and seminars last year on teacher candidates' CRSE perceptions. The data show that there is a significant difference ($t=1.977$ $p<0.05$). This result shows that prospective teachers who participate in online academic activities have more positive CRSE perceptions.

Table 8: Arithmetic Mean and Standard Deviation Values of Teacher Candidates' Perception Scores for Infollution Awareness on the Internet

Factors	\bar{X}	ss
Environmental Characteristics	3.72	.53

Personal Characteristics	3.04	.78
General	3.41	.58

In Table 8, the arithmetic mean and standard deviation values of the scores of prospective teachers' awareness of infollution on the internet. It is seen that both in the sub-factors of "characteristics of the environment" and "personal characteristics" and in general, the awareness of teacher candidates about infollution on the internet is above the medium level. These results show that teacher candidates are aware of the infollution on the internet and know how to use the internet.

Table 9: T-Test Results of Teacher Candidates' Awareness of Infollution on the Internet according to Gender

Gender	N	\bar{X}	ss	t	p
Male	70	3.40	.55	.270	.787
Female	226	3.42	.59		

According to the results, the gender variable does not have any significant effects on awareness of infollution on the internet. It is seen that the arithmetic mean of female teacher candidates is higher than male teacher candidates, but this value does not create a significant difference. Both prospective male and female teachers who have a high awareness of infollution on the internet may have caused the gender variable to be ineffective.

Table 10: Variance Analysis of Teacher Candidates' Awareness of Infollution on the internet according to Department

Department	N	\bar{X}	SS	VK	KT	sd	KO	F	p
Preschool	39	3.44	.49	BG	2.489	4	.622	1.832	.123
Primary	100	3.36	.58	WG	98.835	291	.340		
Social Studies	53	3.29	.59	T	101.324	295			
Turkish Language	77	3.55	.61						
Others	27	3.42	.54						

The variance analysis results of prospective teachers' awareness of infollution on the internet according to the department are provided in Table 10. According to the results, the department variable does not have any significant effect on awareness of infollution on the internet ($F=1.832$ $p>0.05$). It is observed that the Turkish language education department students have the highest average for the

awareness of infollution on the internet. In contrast, the students studying in the social studies program had the lowest average. However, the value does not cause a significant difference. The fact that teacher candidates studying in all departments have an awareness above the medium level may be effective in these results.

Table 11: Variance Analysis of Teacher Candidates' Awareness of Infollution on the Internet according to Year of Study

Year of Study	N	\bar{X}	SS	VK	KT	sd	KO	F	p
First Year	68	3.30	.54	AG	2.139	3	.713	2.099	.100
Second Year	87	3.39	.57	WG	99.185	292	.340		
Third Year	86	3.44	.63	T	101.324	295			
Fourth Year	55	3.55	.55						

The results of the variance analysis of the prospective teachers' awareness of infollution on the internet according to the year of study variable

are provided in Table 11. The results show that the year of study variable does not have a significant effect on the awareness of infollution on the internet

($F=2.099$ $p>0.05$). When the averages of awareness at the grade level are analyzed, it is seen that the awareness of prospective teachers increases from the first year to the fourth year. The highest awareness is in the fourth year students and the lowest is in the

first-year students, but the value between the grades does not create a significant difference. The fact that the first-year students who have the least awareness already have an awareness above the medium level may affect this situation.

Table 12: Variance Analysis of Teacher Candidates' Awareness of Infollution on the Internet according to the Number of Books Read in the Previous Year

The Number of Books Read	N	\bar{X}	SS	VK	KT	sd	KO	F	p
1-5	71	3.29	.58	AG	4.276	6	.713	2.122	.051
6-10	84	3.51	.58						
11-15	52	3.35	.52	WG	97.048	289	.336		
16-20	31	3.43	.51						
21-25	23	3.28	.56	T	101.324	295			
26-30	5	3.32	.84						
31 and more	30	3.66	.66						

In Table 12, variance analysis results of teacher candidates' awareness of infollution on the internet according to the variable of the number of books read in the previous year. According to the analysis, the number of books read last year does not have a significant effect on awareness of infollution on the internet ($F=2.122$ $p>0.05$). According to the table,

the students with the lowest average of infollution awareness on the internet read the least, and those with the highest average are the students who read the most. This shows that as the number of books reads increases, the awareness of infollution on the internet also increases.

Table 13: T-Test Results of Teacher Candidates' Awareness of Infollution on the Internet According to the Participation in Online Activities

Participation in Online Activities	N	\bar{X}	ss	t	p
Yes	220	3.40	.60	.599	.550
No	76	3.45	.52		

The results of the analysis regarding the awareness of infollution on the internet according to the variable of participation of teacher candidates in online activities such as conferences and seminars in the last year are given in Table 13. According to the results, participation in events does not have enough

effect on awareness of infollution on the internet ($t=.599$ $p>0.05$). In addition, according to the data in the table, the average of awareness of infollution on the internet is higher for students who do not participate in online activities.

Table 14: The Relationship between Teacher Candidates' Scores on the CRSE Perceptions and Information Pollution on the Internet Scales

		Scores on the Critical Reading Self-Efficacy Perceptions Scale	Scores on the Information Pollution on the Internet Scale
Scores on the Critical Reading Self-Efficacy Perceptions Scale	r		.093
Scores on the Information Pollution on the Internet Scale	r	.093	

The correlation value between the perception scores of teacher candidates' CRSE and their awareness of infollution on the internet was found to be .093, and it was not significant at the $p > 0.05$ significance level. This result shows no relationship between the CRSE perception scores and the awareness score of infollution on the Internet. However, as a result of the analysis made in the sub-dimensions of the scales, it was revealed that the "characteristics of the environment" sub-dimension of "the Information Pollution on the Internet Scale" has a positive relationship with all the sub-dimensions of "the Critical Reading Self-Efficacy Perception Scale."

Results and Discussion

In today's world, where technology surrounds our life, the internet offers great advantages to people regarding access to, use, and dissemination of information. Besides the advantages it offers, there are also some negative sides to the internet. Incorrect or incomplete information that will negatively affect people can also be conveyed to people via the internet. It comes to the fore that people should have the knowledge and skills to reach the correct information and decide whether the information is right or wrong. One of the ways to decide the accuracy or inaccuracy of information is using critical reading skills. Critical reading, which can be defined as the ability to make inferences about the subject in the text, the validity and reliability of the information put forward, and to understand the intention of the author (Karatay, 2011), is a skill that individuals can use against the infollution on the internet. It will help teachers and teacher candidates to have critical reading skills and to be aware of the infollution on the internet, to perform their profession better. The relational screening model was used in this study, which was conducted to determine the CRSE perceptions of teacher candidates and their awareness of infollution on the internet.

When the teacher candidates' scores on their CRSE perceptions were analyzed, it was observed that the average scores were high. All sub-dimensions of the scale were also found to be at high levels. These results show that, contrary to the findings of Karasakaloğlu, Saracaloğlu, and Yılmaz

Özelçi (2012) and Maltepe (2016), prospective teachers have a high level of CRSE perception. The findings of these researchers indicate that prospective teachers' CRSE perceptions are low.

In the analysis for determining the effect of gender on the CRSE perceptions of teacher candidates, it was seen that gender did not have a significant effect. The average of prospective female teachers was higher than the prospective male teachers, but this value did not reveal a significant difference. Although the high level of CRSE perception levels of prospective female teachers is similar to the research findings of Aşlıoğlu and Yaman (2017), the fact that CRSE perceptions do not make a significant difference based on gender is in line with the findings of Aybek and Aslan (2015).

The results of the variance analysis showed that there was a statistically significant difference. The LSD was conducted to determine the direction of the difference. It was observed that the difference was in the direction of Turkish language education-primary education and social studies education. These results show that the Turkish language department's students have more positive CRSE perceptions than primary and social studies students. According to the results of Koçak's (2020) and Kösem's (2020) studies, the CRSE perceptions of Turkish language education department students were higher than those of other department students, confirming the results of the current study.

The results of analysis for determining the effect of the year of study variable on the CRSE perceptions of teacher candidates, it was observed that the difference was statistically significant. As a result of the LSD test, it was seen that the direction of difference was the fourth year- second and third year. These results reveal that fourth-year prospective teachers have more positive CRSE perceptions than second and third-year prospective teachers. The reason why fourth-year prospective teachers have a higher perception of CRSE may be related to the content of the courses they take in the teacher education program. While a study done by Aybek & Aslan (2015) confirms that the year of study creates a significant difference in the perception of CRSE, in other studies (Topçuoğlu Ünal & Sever, 2013; Şahin, 2019), it was found that the year of study creates a significant difference, as in the current study.

The effect of the number of books that teacher candidates read in the previous year on their CRSE perceptions was tried to be examined. Although the number of books read was expected to be effective on critical reading, it was found that it did not have a significant effect on the perception of CRSE. Students who read 31 or more books have the highest self-efficacy perceptions, but this did not reveal a significant difference. Similarly, Maltepe (2016) did not find a significant relationship between the number of books read and the perception of CRSE. However, Koçak (2020) found that teacher candidates who read 25 or more books in the previous year had higher CRSE perceptions. A significant relationship between the number of books read and their CRSE perceptions were observed.

The analysis to find the effect of online activities such as conferences and seminars, which teacher candidates participated in the previous year, on their CRSE perceptions, it was found that there was a significant difference. According to this result, prospective teachers who participated in the online activities had a more positive perception of CRSE than the prospective teachers who did not participate in the activities.

When the average of the teacher candidates' awareness of infollution on the internet was analyzed, it was seen that their awareness was above the medium level. In addition, it was found that the average of the sub-dimensions of the scale was above the medium level. These data show that teacher candidates have an awareness of infollution on the internet. This result coincides with the results of Kurt and Emiroğlu's (2018) study. According to their findings, teacher candidates' awareness of infollution on the internet is above the average. However, since the sample of their study involved teacher candidates from Computer and Instructional Technologies department, this result might have been reached with the effect of the courses taken in that department.

The results for the effects of gender and department variables on awareness of infollution on the internet, it was revealed that these variables did not have a significant effect. According to the results, it was found that prospective female teachers have higher awareness than their male counterparts and

the Turkish language education department students have higher awareness than others. However, the fact that the averages were high and close to each other was the absence of a significant difference. It can be stated that female teacher candidates are more exposed to infollution on the internet and have a high level of awareness on this issue, which is in line with the findings of Fırat and Kurt's (2015) study that female teacher candidates are more affected by infollution than male teacher candidates.

According to the analysis carried out to find the effect of the year of study variable on the awareness of infollution on the internet, it was seen that this variable did not have a significant effect. It is revealed that the awareness of infollution on the internet increases from the first year to the fourth year. It can be said that the courses taken by the students or the activities they participated in are effective in the emergence of this situation, which is in line with the findings of Kurt and Fırat's (2012) study. Similarly, it was revealed that the number of books reads and the online activities participated in the previous year were not an important factor in the awareness of infollution on the internet. According to the data, students who read 31 or more books last year have higher awareness than others. However, there was no significant difference because the average scores of the others were also high. It was interestingly seen that students who did not participate in online activities had a higher awareness of infollution on the internet.

As a result of the correlation analysis for the relationship between prospective teachers' CRSE perceptions and their awareness of infollution on the internet, it was revealed that there was no relationship between CRSE perception score and awareness score of infollution on the internet. However, in the analysis made on the sub-dimensions of both scales, it was seen that the "characteristics of the environment" sub-dimension of "the Information Pollution on the Internet Scale" and all sub-dimensions of "the Critical Reading Self-Efficacy Perception Scale" were positively related. Based on these results, it is concluded that as the perception of CRSE increases, higher awareness of the internet environment occurs. According to the results of this research, teacher candidates had both a high

perception of CRSE and awareness of infollution on the internet above a medium level. In the analysis done to find the relationship between the scales, it was revealed that there was a positive relationship between the sub-dimensions of the scales. Based on the results, the following suggestions can be made:

Activities related to awareness and combatting methods regarding infollution on the internet can be organized for teacher candidates. Hands-on activities can be effective in improving teacher candidates' information literacy and digital literacy skills. Teacher educators can use different teaching strategies to improve teacher candidates' critical reading skills. In addition, they can differentiate the measurement and evaluation methods based on improving the critical reading skills of the candidates. Instead of multiple-choice tests, exams that will allow teacher candidates to criticize will be useful. A new study can be conducted with a larger sample to examine teacher candidates' perceptions of CRSE and infollution on the internet. In addition, more in-depth analysis of the subject with qualitative methods can provide data for better education of teacher candidates. Research with mixed methods can be beneficial for both seeing the general and analyzing in-depth.

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