Academic Literacy Skills of Postgraduate Students in the Department of Turkish Education

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Abstract

This study aims to identify the academic literacy skills of postgraduate students specializing in the department of Turkish education. This study employed a convergent parallel mixed method, one of the mixed methods. The first working group consisted of 161 students for the quantitative dimension and 25 students in the second group for the qualitative dimension. The study deployed the Academic Literacy Scale and a semi-structured interview form as data collection tools. Descriptive and inferential statistical techniques were used during quantitative data analysis, while content analysis was used for qualitative data. The quantitative findings revealed that the mean academic literacy level score of postgraduate students in the Department of Turkish Education was 4.07, indicating an agreement level; the student's academic literacy level significantly differed across the level of postgraduate education in favor of those pursuing the doctoral degree; no significant difference was observed across postgraduate education stage and gender. The qualitative findings suggested that postgraduate students in the Department of Turkish Education predominantly utilized scientific research processes to identify problem situations, had a moderate level of knowledge regarding scientific research processes, and exhibited awareness of the need to act honestly and responsibly in scientific research and to obtain the necessary permissions. Additionally, they read academic sources to gain information about a subject and to review the literature, even though they needed help reading academic sources in languages other than Turkish. Besides, academic sources were found to provide adequate information. Moreover, they were determined to write academic texts according to a certain writing plan and felt inadequate in writing academic texts. Notably, the education they received in Turkish education improved their academic literacy skills.

Keywords

Academic literacy, postgraduate education, Turkish education.

INTRODUCTION

In the 21st century, educational institutions prioritize the development of multi-literacy skills beyond basic literacy for individuals. The postgraduate education process focuses on enhancing individuals' academic literacy skills. Utilizing these skills for scientific research and problem analysis is essential in attaining postgraduate education objectives.

Academic literacy has become increasingly significant in contemporary education, particularly due to the proliferation of scientific research (Tunagür, 2021; p. 436). Miller (1983) implies that scientific (academic) literacy refers to the ability of the individual to read about, comprehend, and express opinions on scientific matters (p. 30). Demir and Deniz (2020) conceptualize academic literacy as the individual's ability to apply knowledge in everyday life, demonstrating awareness and comprehension, problem analysis through scientific thinking, effective solution generation, and the proficient transfer of scientific knowledge (p. 1368). Yancey (2009) defines academic literacy as writing for different purposes, audiences, and occasions, alongside skills such as accessing, interpreting, and evaluating information, thinking critically, reflecting on one's performance, and creating new texts and knowledge. Holschuh (2019) underlines that academic literacy tasks are the subset of all academic tasks that involve reading and writing (p. 600). Academic literacy is the ability to read, interpret, and produce valued scientific information within the academic community (Elmborg, 2006, p. 196). These explanations underscore that academic literacy comprises two fundamental dimensions, one of which is academic reading and the other is academic writing.

In postgraduate education, the reading dimension is generally defined as reading relevant literature sources. In contrast, the academic writing dimension encompasses various academic text production activities such as proceedings, manuscripts, and theses. The main scientific texts include theses, book chapters, articles, research reports, proceedings, posters, research proposals, and collaboration reports (Şentürk, 2021, p. 23). The abovementioned scientific texts can be produced depending on the student's academic literacy skills during their postgraduate education journey. Creating a scientific text follows a gradual and cyclical process that involves generating ideas and drafting, reviewing, and editing the draft text (Altun Alkan, 2021, p. 67). Both reading and writing dimensions of academic literacy skills have their roots in undergraduate education. This skill is expected to evolve into concrete outputs for production during postgraduate education. While the emphasis at the undergraduate level is typically on scientific knowledge, postgraduate education shifts towards the production and dissemination of scientific knowledge through academic publications (Kan & Gedik, 2016, p. 403), meaning that academic literacy skills have a pivotal role in postgraduate education.

Postgraduate education aims to nurture individuals as creative, investigative, ethically conscious scientists who employ rational methodologies to devise solutions to problems. They are expected to gain a scientific perspective, engage in collaborative and interdisciplinary endeavors, and produce high-quality studies that address societal needs (Aslan, 2010, p. 2). In Turkish education, students are expected to scrutinize scientific resources on Turkish education and generate solutions to the problems of Turkish education from a scientific standpoint. These solutions must be transformed into tangible products through scientific texts such as theses, articles, proceedings, and books. Thus, the academic literacy skills of postgraduate students in the Department of Turkish Education must attain a proficient level. Turkish education aims to provide students with mental and language skills integral to developing academic literacy skills. Language skills are critical in cultivating individuals who think, question, learn, and effectively convey what they learn and who transform these into a form they can

benefit from (Kurudayıoğlu, 2014, p. 47). Students' versatile reading and writing skills are enhanced in Turkish education's undergraduate, graduate, and doctoral education processes. Turkish lesson is a versatile course that encompasses a wide range of disciplines and skills (Sulak & Süğümlü, 2020, p. 333). Hence, it is paramount for undergraduate and graduate students in the Department of Turkish Education to possess academic literacy skills.

On analyzing the relevant literature, no such study was specifically published on investigating the academic literacy skills of postgraduate students in the Department of Turkish Education. The studies are primarily grounded on the academic literacy levels of undergraduate and postgraduate students (Işık & Kana, 2023) and the pre-service teachers' academic literacy levels (Ayyıldız Çolak, 2022; Elkıran, 2021; İbili & Özbaş, 2023; Tunagür, 2021; Türkben & Satılmuş, 2022). Studies on postgraduate students in the Department of Turkish Education are built on students' information literacy levels (İşcan et al., 2012) and their academic self-efficacy (Aslan, 2010). Besides, some studies were conducted on examining the postgraduate theses in the Department of Turkish Education (Boyacı & Demirkol, 2018; Önal & Maden, 2021; Şentürk & Yazar, 2021). Therefore, this study is expected to shed light on the postgraduate education processes in the Department of Turkish Education and the academicians who conduct studies on the development of academic literacy skills of postgraduate students in this field. In this vein, the study attempts to identify the academic literacy skills among postgraduate students in the Department of Turkish Education. Thus, answers to the following research questions were sought:

1. What is the current state of academic literacy among postgraduate students in the Department of Turkish Education?

2. Do academic literacy levels among postgraduate students in the Department of Turkish Education differ significantly across educational levels (master's / doctoral), stage of postgraduate education (coursework / dissertation) and gender?

3. How are the postgraduate students in the Department of Turkish Education evaluated regarding scientific research processes?

4. What specific reading and resource utilization skills do postgraduate students in the Department of Turkish Education possess?

5. What are the academic writing skills of postgraduate students in the Department of Turkish Education?

6. Does Turkish education enhance academic literacy skills among postgraduate students in this field?
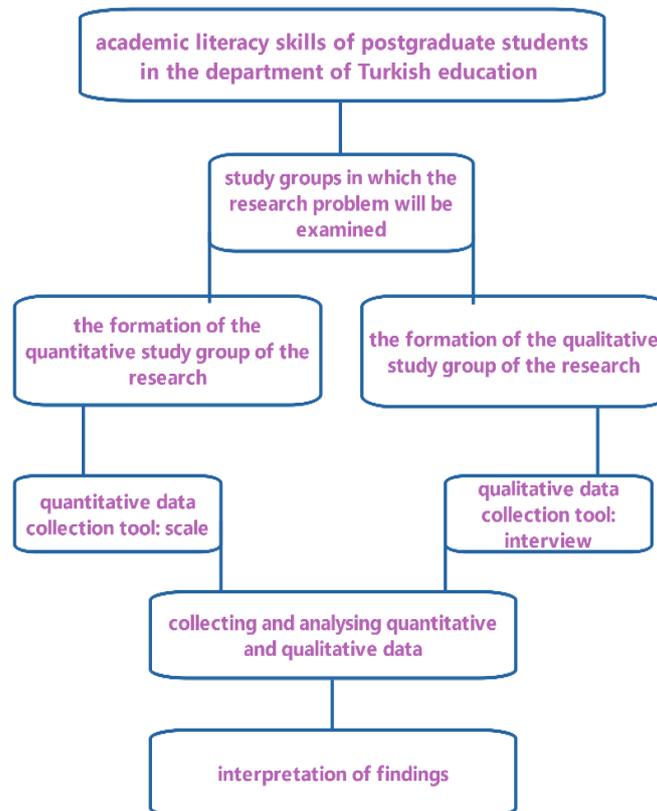
METHOD

Research Design

This study employed a convergent parallel mixed-method approach, combining quantitative and qualitative research methods. The convergent parallel design involves collecting both quantitative and qualitative data concurrently or at close times. This approach entails the researcher concurrently collecting both types of data during the same phase of the research process and integrating them when interpreting the overall results (Creswell, 2017, p. 15). Consequently, quantitative and qualitative data were collected during approximately the same stage of the research process. This study was structured into phases, including study groups in which the research problem would be examined, the formation of both quantitative and qualitative working groups, the quantitative data collection tool (scale), the

qualitative collection tool (interview), the collection and analysis of both types of data, and the interpretation of the findings. Figure 1 depicts the phases of the research design.

Figure 1

The Phases of the Research Design

Study Group

The study involved two distinct groups. The first study group comprised 161 postgraduate students specializing in Turkish education for the quantitative research design. These students were enrolled at 30 different universities across Turkey. Among the participants, 66.5% (107) were females and 33.5% (54) were males. 81.4% (131) of the first study group held master's degrees and 18.6% (30) pursued doctoral degrees. 53.4% (86) of the first study group were in the coursework phase, while 46.6% (75) were in the dissertation phase. The second study group encompassed 25 postgraduate students in the Department of Turkish Education for the qualitative phase of the study. These students were enrolled at six different universities in Turkey. Among the participants, 60% (15) were females and 40% (10) were males. 76% (19) of the second study group held master's degrees and 24% (6) were pursuing their doctoral degrees. 48% (12) were in the coursework period and 52% (13) were in the dissertation phase. The second study group students were assigned codes such as P1, P2, P3, P4… All participants were selected by the convenience sampling method (Creswell, 2017), which falls under non-probability sampling methods.

Data Collection Tools and Data Collection Process

This study deployed the Academic Literacy Scale developed by Demir and Deniz (2020) as a quantitative data collection tool. The tool is specifically designed to measure the pre-service Turkish language teachers' academic literacy levels. The researchers created a pool of 52 items during the scale development process. The items in the pool underwent evaluation by five experts in the department of Turkish education. A 52-item draft scale was constructed with modifications made to one item with the experts' contribution. The draft scale was administered to 446 pre-service Turkish language teachers. Exploratory and confirmatory factor analyses were performed during data analysis. Thus, the tool was structured on three factors and 23 items. The first factor of the scale is academic disposition, the second is the research process, and the third is the use of information. The scale was rated using a scoring system of totally agree (5), agree (4), undecided (3), disagree (2) and strongly disagree (1). Cronbach's Alpha coefficients of the overall scale and its factors were calculated to ensure internal consistency. The overall scale demonstrated a high level of reliability with a Cronbach's Alpha (α) coefficient of .87. Meaning that the tool is reliable for measuring academic literacy levels. In this study, the data collection tool's Cronbach's Alpha (α) reliability coefficient was determined as .87.

This study also deployed a semi-structured interview form developed by the researchers to gather qualitative data, aiming to evaluate the participants' academic literacy skills. This type of interview entails that the researcher pre-determines the questions, yet new questions may also be addressed during the interview (Güçlü, 2019, p. 103). The researchers created a draft semi-structured interview form comprising 15 questions through analyzing the relevant literature. Five field faculty members who are experts in the Department of Turkish Education were invited to assess this semi-structured interview form for content validity studies. Based on the experts' feedback, three questions were combined with others having similar characteristics. As a result, the semi-structured interview form was refined to consist of 12 questions. In the second stage of content validity, the questions were distributed to five postgraduate students in the department of Turkish education, and the students were asked to respond. The answers of two questions were identified to be answers outside the scope of the question. These two questions were adjusted, and the semi-structured interview form got its final version for data collection.

The quantitative data were collected online, as the participants were enrolled at 30 universities across Turkey. An online tool, "Google Forms" was used during data collection. The collection of quantitative data was completed within one month. The qualitative data were collected through face-to-face interviews and online. Questions were sent in writing via e-mail to participants who preferred online rather than face-to-face interviews, and the responses were provided in writing. This process was completed simultaneously with the quantitative data within a one-month timeframe.

Data Analysis

The quantitative data were analyzed using the SPSS 24 package program. The normality distributions were examined to decide which statistical techniques would be used to analyze the data. Hence, the skewness coefficient of the measurement tool was determined as -.205 and the kurtosis as -.087. These values indicate that the data show normal distribution (Tutar & Erdem, 2022). Besides, the Kolmogorov-Smirnov test was performed for normality distribution, and the significance value was greater than .05. The study also analyzed the histogram graph. Parametric tests (independent samples t-test) were used during data analysis as the skewness and kurtosis coefficients, Kolmogorov-Smirnov test value and histogram graph showed normal distribution. For the independent samples t-Test, the

d value refers to .02 and below as small, between .05 and .08 as medium, and as .08 and above as high effect size (Green & Salkind, 2014). The interpretation of effect sizes was conducted according to the specified value ranges. Mean score and standard deviation calculations determined the participants' academic literacy skill levels. The significance level was accepted as .05. The findings were displayed and interpreted in tables.

Content analysis was used during the qualitative data analysis. The collected data were imported into the MAXQDA 20 qualitative data analysis program. Software designed for qualitative data analysis offers the opportunity to store, retrieve, code, and classify extensive datasets (Maxwell, 2022, p. 115). The qualitative data analysis was executed within the designated software program. The codes were grouped into categories and themes to form a meaningful framework. Two researchers carried out coding. Inter-coder agreement technique (Creswell, 2017, p. 200) was employed to ensure coding reliability. It was determined that there was a high level of consistency between the coding made by the researchers. Moreover, direct transfer was provided to ensure the reliability of the data analysis. The findings were displayed and interpreted using code maps generated by the program.

Ethical Principles

Ethics committee permission for this study was obtained from Ordu University Rectorate Social and Humanities Research Ethics Committee with the decision dated 01.06.2022 and numbered 2022-108-08.

RESULTS

Quantitative Results on the Academic Literacy Skills of Postgraduate Students in the Department of Turkish Education

Table 1 shows the academic literacy mean scores, standard deviation values, and value ranges corresponding to the mean scores, and participation levels of postgraduate students in the Department of Turkish Education.

Table 1

Participants Mean Scores, Standard Deviation Values, and Participation Levels

Scales and Factors	$\bar{X}$	SD	Value Range and Participation Level
1. Academic Literacy Scale	4.07	.42	3.41-4.20 / Agree
1. 1. Academic Disposition	4.31	.43	4.21-5.00 /Totally Agree
1. 2. Research Process	3.74	.59	3.41-4.20 / Agree
1. 3. Use of Information	4.08	.52	3.41-4.20 / Agree

As presented on Table 1, the academic literacy levels of postgraduate students in the Department of Turkish Education were determined as X̄=4.07 for the entire scale, x̄=4.31 mean score for the "academic disposition" x̄=3.74 for the "research process" and x̄=4.08 for the "use of information". Table 1 also reveals that the "research process" factor had the lowest mean score, while "academic disposition" had the highest mean score. This indicates that the academic literacy of postgraduate

students fell within the agreed range. The highest academic literacy was observed in the domain of academic disposition (x̄=4.31 / totally agree), and the lowest in the research process domain (x̄=3.74 / agree).

Table 2 shows the results on the independent samples t-Test, which examined the academic literacy of postgraduate students in Turkish education regarding their educational levels (master's/doctoral).

Table 2

Academic Literacy by Educational Level

Scales	Educational Level	N	$\bar{X}$	SD	df	t	p	d
Academic Disposition	Master's	131	4.27	.43				
	Doctoral	30	4.47	.44	159	-2.330	.02*	.45
	Total	161						
Research Process	Master's	131	3.71	.60				
	Doctoral	30	3.88	.57	159	-1.407	.16	
	Total	161						
Use of Information	Master's	131	4.02	.52				
	Doctoral	30	4.32	.46	159	-2.899	.00*	.61
	Total	161						
Academic Literacy (Overall)	Master's	131	4.03	.41				
	Doctoral	30	4.24	.41	159	-2.490	.01*	.51
	Total	161						

*p<.05

On analyzing Table 2, a significant difference existed across the overall score of academic literacy($t_{(159)} = -2.490$, $p < .01$), "academic disposition" $(t_{(159)} = -2.330$, $p < .05)$ and "use of information " $(t_{(159)} = -2.899$, $p < .05)$ in terms of educational level; whereas, no significant difference was noted across the "research process" domain $(t_{(159)} = -1.407$, $p > .05)$. Table 2 also suggests that the significant differences were in favor of those holding a doctoral degree. The mean scores of doctoral students were higher than those of students taking master's degrees in the "research process" domain. Besides, the effect sizes of these significant differences were moderate for the overall academic literacy score and the "use of information" factor and at a low level for the "academic disposition" domain.

Table 3 shows the results of the independent samples t-test, conducted to examine the academic literacy of postgraduate students in the Department of Turkish Language in terms of their postgraduate education stage (coursework/dissertation).

Table 3

Academic Literacy by Postgraduate Education Stage

Scales	Education Stage	N	$\bar{X}$	SS	df	t	p	d
Academic Disposition	Coursework	86	4.31	.45				
	Dissertation	75	4.30	.42	159	-.069	.94	
	Total	161						
Research Process	Coursework	86	3.67	.58				
	Dissertation	75	3.83	.60	159	-1.689	.09	
	Total	161						
Use of Information	Coursework	86	4.06	.55				
	Dissertation	75	4.09	.48	159	-.284	.77	
	Total	161						
Academic Literacy (Overall)	Coursework	86	4.04	.42				
	Dissertation	75	4.10	.41	159	-.890	.37	
	Total	161						

Table 3 revealed no significant difference across academic literacy in general($t_{(159)} = -.890$, $p > .05$), "academic disposition"($t_{(159)} = -.069$, $p > .05$), "research process" ($t_{(159)} = -1.689$, $p > .05$) and "use of information " $\left(t_{(159)} = -.284, p > .05\right)$ concerning the participants' education stage. Table 3 also displays that the mean scores of academic literacy in general, the "research process" and "use of information" were higher than those at the dissertation stage. Conversely, the mean score was slightly higher in favor of students in the coursework phase regarding the "academic disposition" domain.

The results of the independent samples t-test, which was conducted to analyze the academic literacy of postgraduate students in the Department of Turkish Education in terms of their gender, were summarized in Table 4.

Table 4

Academic Literacy by Gender

Scales	Gender	N	$\bar{X}$	SD	df	t	p	d
Academic Disposition	Female	107	4.29	.45				
	Male	54	4.33	.40	159	-.505	.61	
	Total	161						
Research Process	Female	107	3.71	.62				
	Male	54	3.80	.52	159	-.873	.38	
	Total	161						
Use of Information	Female	107	4.07	.50				
	Male	54	4.10	.55	159	-.363	.71	
	Total	161						

Academic Literacy (Overall)	Female	107	4.05	.43			
	Male	54	4.11	.38	159	-.851	.39
	Total	161					

As is seen in Table 4, the postgraduate students' academic literacy in general ($t_{(159)} = -.851$, $p > .05$), "academic disposition" ($t_{(159)} = -.505$, $p > .05$), "research process" ($t_{(159)} = -.873$, $p > .05$) and " use of information " ($t_{(159)} = -.363$, $p > .05$) did not significantly vary across their gender. Likewise, the mean scores in the overall and factors of academic literacy were higher in favor of male students.

Qualitative Findings Regarding the Academic Literacy of Postgraduate Students in the Department of Turkish Language

The emerging themes, categories, codes, and frequency of codes regarding academic literacy based on the postgraduate students' views are presented in Figure 2.

Figure 2

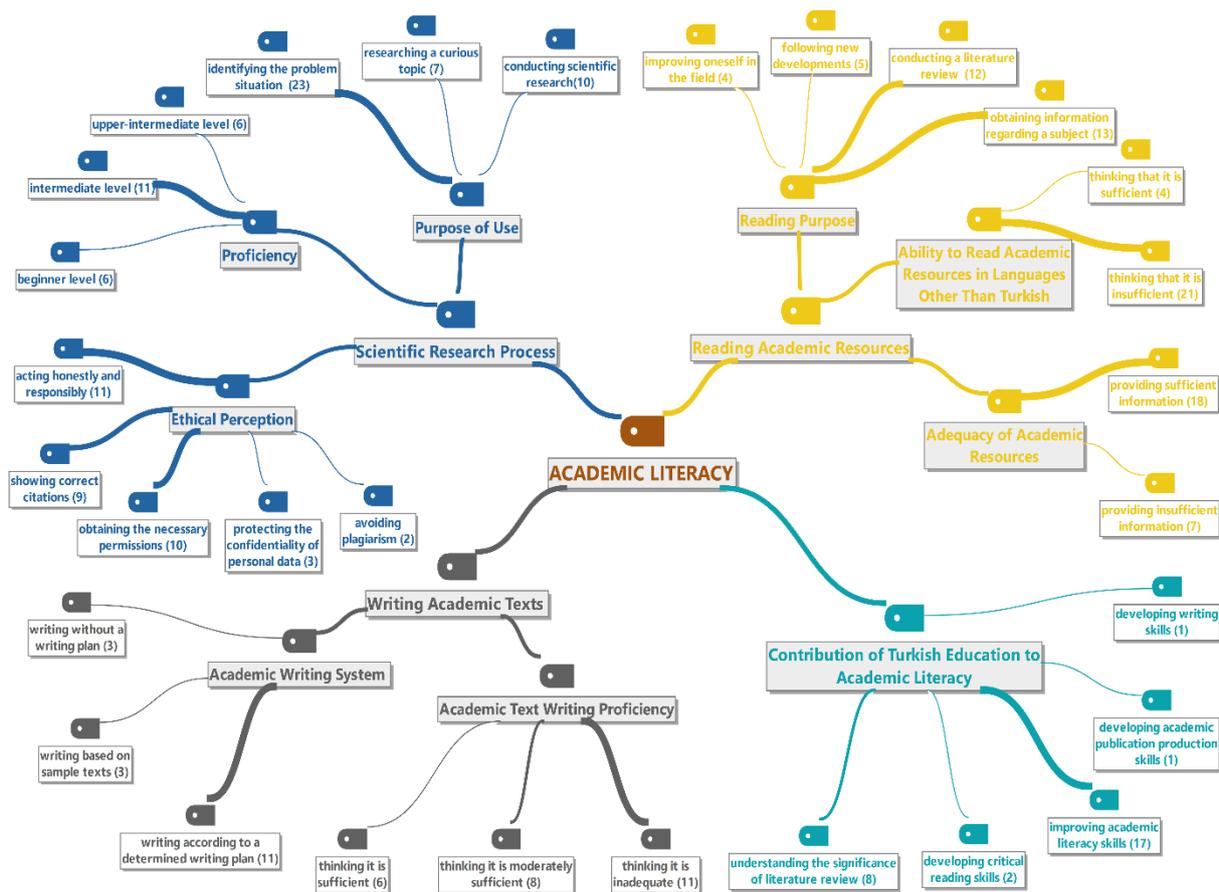*Emerging Themes, Categories, and Codes Regarding Academic Literacy (Code Tree)*

Figure 2 illustrates the themes of the scientific research process, reading academic resources, writing academic texts and the contribution of Turkish education to academic literacy related to the postgraduate students' academic literacy.

The scientific research process theme involves use, proficiency, and ethical perception categories. The category of the purpose of using scientific research processes consists of three key codes: identifying the problem situation (23), conducting scientific research (10), and researching a curious topic (7). The postgraduate students mostly underlined that they used scientific research processes to determine problem situations. Proficiency in the scientific research processes category was determined to include beginner level (6), intermediate level (11), and upper-intermediate level (6) codes. The most common self-assessment was having a moderate level of knowledge and proficiency in scientific research processes. The ethics-related perception category for scientific research processes encompasses various codes, such as acting honestly and responsibly (11), obtaining the necessary permissions (10), showing correct citations (9), protecting the confidentiality of personal data (3), and avoiding plagiarism (2). In this category, students predominantly emphasized the significance of acting honestly and responsibly and obtaining the necessary permissions in the ethical conduct of scientific research. Based on these findings, postgraduate students primarily utilize scientific research processes for problem identification, have moderate knowledge, and know the need to act honestly and responsibly in scientific research and obtain the necessary permissions.

The theme of reading academic sources was determined to hold three distinct categories: reading purpose, ability to read academic resources in languages other than Turkish, and adequacy of academic resources. The following codes emerged under the category of the purpose of reading academic sources: obtaining information regarding a subject (13), conducting a literature review (12), following new developments (5), and improving oneself in the field (4). In this regard, students implied that they mostly read academic sources to gain information about a subject and to conduct literature reviews. Two codes were identified in the category concerning the ability to read academic sources other than Turkish: thinking that it is insufficient (21) and thinking that it is sufficient (4). In this category, students mostly announced their need for more proficiency in reading academic sources in languages other than Turkish. The category regarding the adequacy of academic resources encompassed the codes, such as providing sufficient information (18) and insufficient information (7). The students mostly stated that academic sources provide sufficient information. Based on these findings, it is most probable that postgraduate students primarily read academic sources to gather information about a subject and review the literature. Furthermore, they mostly need help reading academic sources in languages other than Turkish and finding academic sources to provide sufficient information.

The theme of academic text writing involves the categories of academic writing system and academic text writing proficiency. The following codes emerged under the category of academic writing system: writing according to a determined writing plan (11), writing based on sample texts (3), and writing without a writing plan (3). Hence, the students stressed that they mostly wrote academic texts according to their determined writing plan. The academic text writing proficiency category holds the codes such as thinking it is inadequate (11), thinking it is moderately sufficient (8), and thinking it is sufficient (6). In this vein, the students reported being inadequate in academic writing. Based upon these findings, postgraduate students mostly write academic texts according to a certain writing plan and feel inadequate in writing academic texts.

The theme regarding the contribution of Turkish education to academic literacy is composed of the following codes: improving academic literacy skills (17), understanding the significance of literature review (8), developing critical reading skills (2), developing academic publication production skills (1), and developing writing skills (1). The students clarified that their postgraduate education in the Department of Turkish Education significantly enhanced their academic literacy skills. Thus, this underscores the role of the education received by postgraduate students in improving their academic literacy skills.

The distribution of the views of the postgraduate students in the department of Turkish language into themes, categories, and codes is displayed in Figure 3.

Figure 3

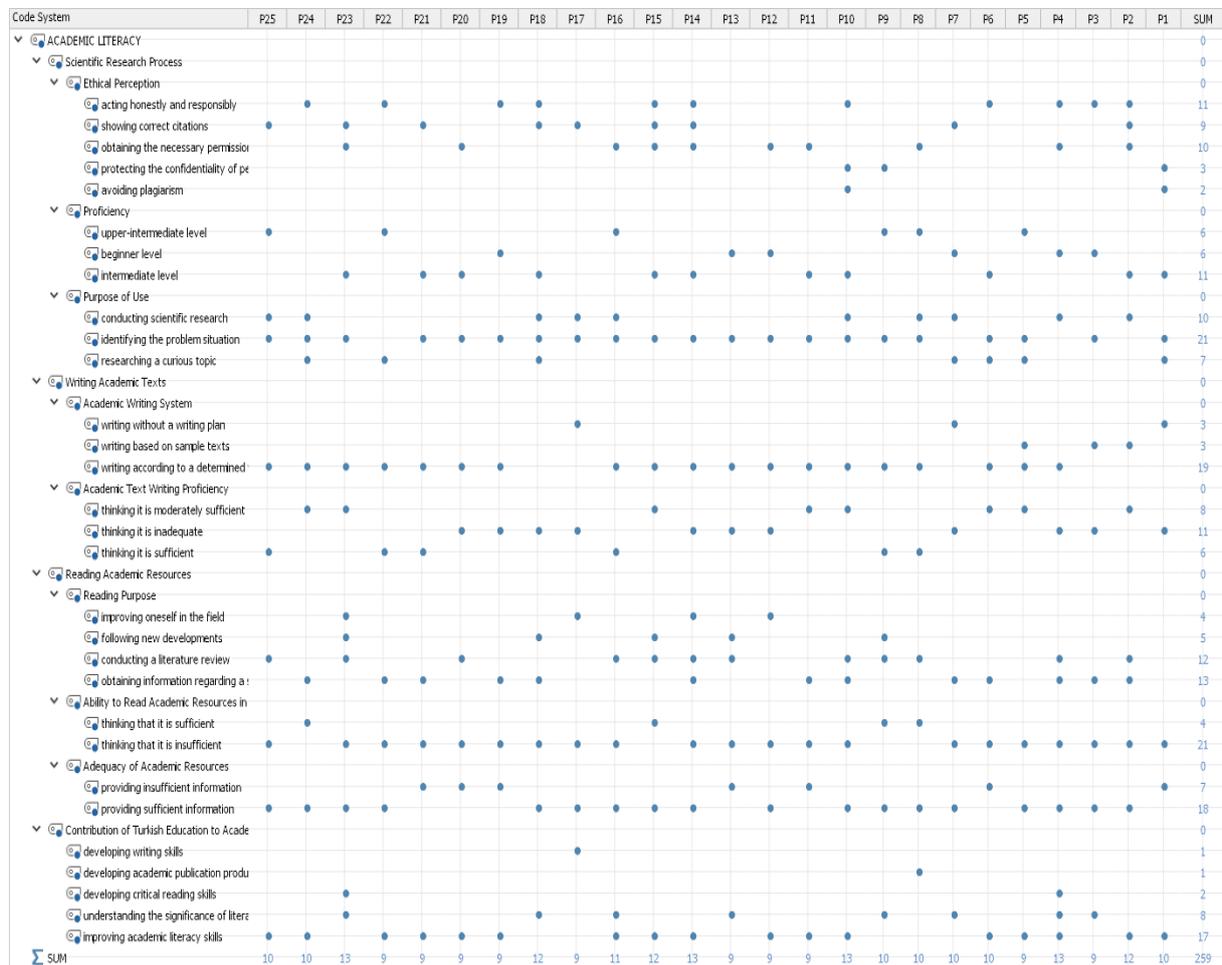*Distribution of Participants by Themes, Categories, and Codes (Code Matrix Browser)*

Figure 3 suggests a balanced distribution of the postgraduate students in the Department of Turkish Education into themes, categories, and codes. The number of views in the codes was determined to vary between 9 and 13. The participants whose views were coded the most were K23 (male, master's, dissertation), K14 (female, doctoral, coursework), K10 (male, master's, dissertation), K4 (female, master's, coursework), K18 (female, master's, dissertation), K15 (female, doctoral, coursework) and K2 (female, master's, dissertation).

The quantitative findings demonstrated a significant difference in favor of those who completed their doctorate at the postgraduate level (master's-doctoral). The views of master's and doctorate students are congruent with this significant difference.

The participant coded K14 learn at the doctoral level. The student clarified the academic writing process: *"When reporting my research, I first write the method section. Afterwards, I write up the findings. Based on the findings, I completed the results and discussion section. I usually write the introduction last. I prefer this method since I believe that the research process and findings shape the topics that should be mentioned in the introduction."* These expressions show that the student acts according to a self-determined writing plan in academic writing. The participant coded the K2 study at the master's level. The student expresses his academic writing path: *"I obtain information about how reporting is done through examining studies in the literature. I especially analyze the studies that are similar to mine. I benefit from scientific research methods books."* These expressions prove that the student cannot create a writing plan in academic writing and tries to write based on sample texts.

The participant coded K15 is studying for a PhD. The student reported on being able to read academic sources other than Turkish: *"Yes, I can read academic sources other than Turkish. I can read English sources with translation help."* This means that the student can read in a language other than Turkish. The student coded K10 is studying at the master's level. The student used these expressions about being able to read academic sources other than Turkish: *"I am not fully proficient in any foreign language. Therefore, I read foreign sources through translation programs."* These statements indicate that the student can read academic resources in a language other than Turkish using only translation programs.

DISCUSSION AND CONCLUSIONS

This study explores the academic literacy skills among postgraduate students in the Department of Turkish Education. Academic literacy skills are pivotal for postgraduate students. In the 21st century, the aspiration is to raise individuals who have developed mental skills such as thinking, comprehending, interpreting, questioning, criticizing, and problem-solving, who can communicate effectively, who are open to innovations and can produce solutions to problems, and who can make meaningful contributions to their society and humanity (Bağcı Ayrancı & Süğümlü, 2021, p. 173). These skills are especially required for these departments' pre-service teachers and postgraduate students. Türkben and Satılmış (2022) reported that academic literacy is among the basic skills that pre-service teachers should possess (p. 347). Holschuh (2019) announced that many university students have struggled with the academic literacy expectations in their courses and need some scaffolded experience with academic literacy skills before they enter college (p. 600, 603).

In response to the research question regarding the academic literacy levels of postgraduate students within the Department of Turkish Education, the student's academic literacy levels were determined to fall within the agreed range, with the highest academic literacy level observed in the 'academic disposition' factor and the lowest in the 'research process' factor. The fact that students perceive themselves as sufficient in terms of academic literacy skills reflects a positive outcome. This suggests a high level of awareness or motivation among students regarding academic literacy, further supported by the fact that the highest mean score is associated with the 'academic disposition' factor. In their study, Işık and Kana (2023) underlined that graduate students had a satisfactory level of academic literacy. İşcan, Sevim, and Varışoğlu (2012) concluded that postgraduate students in the Department

of Turkish Education had adequate skills in fundamental issues related to information literacy. Tunagür (2021) found that pre-service Turkish language teachers had high academic literacy proficiency. Likewise, Elkıran (2021) revealed that pre-service Turkish language teachers had high academic literacy. The findings of this study align with those of the studies mentioned earlier.

The results about whether the academic literacy of postgraduate students in the Department of Turkish Education significantly differed across postgraduate education levels (master's/doctoral), stage of postgraduate education (coursework/dissertation) and gender suggested that students' postgraduate education level varied significantly in favor of doctoral students. At the same time, this was not the case for the postgraduate education stage and gender. The significant difference favoring doctoral students is a logical outcome. A student who has completed his/her master's degree is expected to carry over the learning experiences he/she gained into the doctoral process. Conversely, the absence of any significant differences based on gender is a positive outcome. Academic literacy should be considered a skill that each postgraduate student must acquire. However, it was unexpected that the postgraduate students' academic literacy levels remained relatively similar across the postgraduate education phase. A significant difference in academic literacy skills would be expected between the coursework and the dissertation phases of postgraduate education. Türkben and Satılmuş (2022) suggested no significant relationship between academic literacy and gender, but they did find a significant relationship between academic literacy and the desire to pursue postgraduate education. Tunagür (2021) stated that the pre-service Turkish language teachers' academic literacy competencies did not differ significantly based on gender. Likewise, Ayyıldız Çolak (2022) found that pre-service teachers' academic literacy did not significantly vary by gender. The findings of this study regarding gender are similar to those of the mentioned studies. Besides, qualitative findings on the views of master's and doctoral students corroborate the significant difference observed in favor of doctoral students.

The research findings regarding the postgraduate students' views on scientific research processes proved that they predominantly used scientific research processes when identifying problem situations, that they exhibited a moderate level of proficiency in scientific research processes, that scientific research should be conducted with honesty and responsibility, stressing the significance of obtaining necessary permissions. It is promising that students identify problem situations based on scientific research processes, a crucial aspect of postgraduate education. The fact that students consider themselves to possess a moderate level of knowledge about scientific research processes pinpoints that the education they receive in the Turkish language positively impacts academic literacy. Furthermore, the students' perceptions of ethics reflect the fundamental characteristics that a scientist should acquire. Their ethical perceptions towards scientific research are indeed inspiring. Aslan (2010) pointed out that postgraduate students in the Department of Turkish Education felt inadequate mostly in research methods and techniques, measurement and evaluation, statistics, qualitative and quantitative research methods, test development, and research ethics. The thirteen-year time gap between the two studies may account for the differences.

The findings about the research question regarding the skills of postgraduate students studying in the Department of Turkish Education in reading and utilizing academic sources suggested that they mostly read academic sources to obtain information about a subject and to conduct a literature review; however, they faced difficulties in comprehending academic sources in languages other than Turkish. Students' purposes of reading academic resources are in conjunction with those of publishing academic resources. This is favorable in terms of students' academic literacy skills. The fact that

academic resources provide sufficient information demonstrates that students can access comprehensive scientific data when using these academic resources. However, students cannot read academic resources in languages other than Turkish, which is concerning. Aslan (2010) argued that postgraduate students in the Department of Turkish Education perceived themselves as inadequate, mostly in foreign language subjects. Despite the thirteen-year gap between the two studies, there is no positive change in the ability to read in a foreign language.

Within the scope of the research question regarding the academic writing skills of postgraduate students in the Department of Turkish Education, the students were identified to primarily write academic texts according to a certain writing plan and consider themselves inadequate in writing academic texts. It is encouraging for students to write according to a specific writing plan regarding academic writing. One of the basic elements of writing education is that writing takes place with planning; moreover, students regarded themselves needing to improve in writing academic texts. This points to the need to improve students' academic text-writing skills. Kan and Gedik (2016) uncovered that the participants experienced various difficulties with writing the basic sections of the dissertation and that they could not sufficiently use studies written in a foreign language. Yücelşen and Çetinkaya Edizer (2020) pinpointed that pre-service Turkish language teachers followed academic studies based on grade motivation, they had difficulty in adapting the general features of scientific discourse to their own writings despite being aware of them, and that they found academic writings challenging and incomprehensible. This study's findings align with those of the mentioned studies.

The findings about the research question of whether postgraduate education contributes to the development of academic literacy skills among students in the Turkish language department show a positive impact. It is an expected and desired result that postgraduate education in the Department of Turkish language enhances students' academic literacy skills. Kan and Gedik (2016) highlighted that students became more competent in academic writing and dissertations after their master's degree in Turkish education. This sheds light on the beneficial role of postgraduate education in the Department of Turkish Education in strengthening academic literacy skills.

Based on the results regarding the academic literacy skills of postgraduate students specializing in the department of Turkish language, various recommendations were provided:

- There is a need to improve scientific research methods courses within Turkish education postgraduate programs. These courses should be optimized to offer practical and hands-on experience.

- Engaging and guiding activities should be implemented to enhance students' proficiency in reading academic resources in languages other than Turkish. It is crucial to raise students' awareness at the outset of their postgraduate education journey, as this will enable them to acquire proficiency in the primary language of academic publications within their department, aside from Turkish.

- Turkish education postgraduate programs should incorporate courses dedicated to academic text writing to enhance students' academic writing skills. It is paramount for students to commence these courses during their master's degree studies and progressively include more such courses during their doctoral studies, which will facilitate the development of their academic text-writing skills.

- The training offered within the Department of Turkish Education is pivotal in improving students' academic literacy skills. Hence, it is recommended that Turkish education instructors actively guide students in their pursuit of improved academic literacy skills.

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No potential conflict of interest was declared by the author.

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