

CHAPTER IV

FINDINGS AND DISCUSSION

A. Findings

In this chapter, the researcher wants to present the data descriptions of the level of pre-service English teachers' readiness for Implementation TPACK. The purpose of this study is to describe the level of pre-service English teachers' readiness for Implementation TPACK. Before the researcher did the research, the instrument must be analyzed to measure whether it was valid or not by using SPSS 28.0 program.

Category	No. Item of instrument	Validity value of each item	r_{11}	r table	Status	
TK	1	0,8692	0,867	0,444	Valid	Reliable
	2	0,4571			Valid	
	3	0,6907			Valid	
	4	0,4795			Valid	
	5	0,4790			Valid	
	6	0,7352			Valid	
	7	0,6201			Valid	
	8	0,4542			Valid	

	9	0,5692			Valid	
	10	0.6139			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 4, all items are valid and reliable. According to the criteria of reliability, 0,867 included the high category.

Table 5						
Analysis of Validity and Reliability PK						
Category	No. Item of instrument	Validity value of each item	r₁₁	r table	Status	
PK	11	0,6250	0,829	0,444	Valid	Reliable
	12	0,4486			Valid	
	13	0,6088			Valid	
	14	0,5742			Valid	
	15	0,6550			Valid	
	16	0,6336			Valid	
	17	0,4930			Valid	
	18	0,3328			Invalid	

The result of validity and reliability by using SPSS 28.0 program based on table 5, all items except number 18 are valid and reliable. According to the criteria of reliability, 0,829 included the high category.

Table 6						
Analysis of Validity and Reliability CK						
Category	No. Item of instrument	Validity value of each item	r₁₁	r table	Status	
CK	19	0,6542	0,895	0,444	Valid	Reliable
	20	0,5554			Valid	
	21	0,6430			Valid	
	22	0,7171			Valid	
	23	0,6981			Valid	
	24	0,6346			Valid	
	25	0,6214			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 6, all items are valid and reliable. According to the criteria of reliability, 0,895 included the high category.

Table 7

Analysis of Validity and Reliability TPK						
Category	No. Item of instrument	Validity value of each item	r_{11}	r table	Status	
TPK	26	0,7825	0,841	0,444	Valid	Reliable
	27	0,8029			Valid	
	28	0,7028			Valid	
	29	0,7415			Valid	
	30	0,4847			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 7, all items are valid and reliable. According to the criteria of reliability, 0,841 included the high category.

Table 8 Analysis of Validity and Reliability TCK						
Category	No. Item of instrument	Validity value of each item	r_{11}	r table	Status	
TCK	31	0,2609	0,593	0,444	Invalid	Reliable
	32	0,7311			Valid	
	33	0,7414			Valid	
	34	0,6350			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 8, all items except item number 31 are valid and reliable. According to the criteria of reliability, 0,593 is enough.

Table 9 Analysis of Validity and Reliability pCK						
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Category	No. Item of instrument	Validity value of each item	r_{11}	r table	Status	
PCK	35	0,6243	0,895	0,444	Valid	Reliable
	36	0,7463			Valid	
	37	0,7463			Valid	
	38	0,7122			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 9, all items are valid and reliable. According to the criteria of reliability, 0,895 included the high category.

Table 10						
Analysis of Validity and Reliability TPACK						
Category	No. Item of instrument	Validity value of each item	r_{11}	r table	Status	
TPACK	39	0,9372	0,935	0,444	Valid	Reliable
	40	0,8148			Valid	
	41	0,8065			Valid	
	42	0,6669			Valid	
	43	0,4828			Valid	
	44	0,7258			Valid	
	45	0,8054			Valid	
	46	0,6118			Valid	
	47	0,7041			Valid	

The result of validity and reliability by using SPSS 28.0 program based on table 10, all items are valid and reliable. According to the criteria of reliability, 0,935 included the very high category.

After validity and reliability, the next step is to analyze the data, these below are the analysis of Technological Pedagogical and Content Knowledge (TPACK) readiness of pre-service English teachers of UIN Antasari Banjarmasin.

1. Technological Knowledge (TK) readiness of pre-service English teachers of UIN Antasari Banjarmasin

Technological knowledge is knowledge about various technologies, ranging from low-tech technologies such as pencils and paper, and digital technologies such as the internet, the digital videos, interactive chalkboard, and software and hardware.

Based on the data analysis, the Technological Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

No	Question items	Mean	Category
1	I know how to solve my own technical problems on a computer	3,59	medium

2	I know about the basic of computer components.	4,47	high
3	I can use computer without problem.	4,30	high
4	I am adept in Microsoft Word.	4,14	high
5	I am adept in Microsoft Excel.	3,46	medium
6	I am adept in Microsoft Power Point.	3,82	medium
7	I am good at using a printer.	3,91	medium
8	I am good at using a projector/lcd.	3,66	medium
9	I know many different types of techonolgy.	3,35	medium
10	I use the internet as a communication media.	4,60	high
Total		3,93	medium

Based on table 11 above, the highest score founded on the statement "I use the internet as a communication media" with a mean of 4.60. On the other hand, the lowest statement was "I know many different types of technology" which only got a mean of 3.35. Overall, the Technological Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is at the medium level with a mean of 3,93. However, there are some statements that still get below the total average such as how to solve my own technical problems on a computer, and the use of computer software and hardware.

2. Pedagogical Knowledge (PK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Pedagogical Knowledge is teachers' knowledge about various approaches, strategies, and methods to support student learning activities (Koehler, Mishra, & Cain, 2013).

Based on the data analysis, the Pedagogical Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

No	Question items	Mean	Category
11	I know how to assess a student activities in the classroom.	4,00	high
12	I can adjust teaching models based on what students currently understand or not.	3,77	medium
13	I can adjust my teaching style to different students condition.	3,69	medium
14	I can assess students learning in various ways.	3,72	medium
15	I can use a variety of teaching approaches in classroom management	3,72	medium
16	I am familiar with the understanding and misconception of the students in general	3,44	medium
17	I know how to manage a classroom	3,71	medium
Total		3,72	medium

Based on table 12 above, the highest score founded on the statement "I know how to assess student activities in the classroom" with a mean of

4,00. On the other hand, the lowest statement was "I am familiar with the understanding and misconception of the student in general" with a mean of 3.44. Overall, the Pedagogical Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is in the medium level with a mean of 3,72. However, there are some statements that still get below the total average such as in terms of classroom management, adjustment of learning to student characteristics and overcoming the misconception of the students.

3. Content Knowledge (CK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Content knowledge is knowledge of concepts, theories, thoughts, frameworks, practices, and approaches to developing that knowledge (Shulman, 2009).

Based on the data analysis, the Content Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

No	Question items	Mean	Category
18	I have many strategies to develop knowledge and language skill.	3,83	medium

19	I can speak English very well.	3,43	medium
20	I can listen English conversation very well.	3,64	medium
21	I can read English very well.	3,93	medium
22	I can write in English very well.	3,73	medium
23	I have a good knowledge of grammatical and English vocabulary	3,29	medium
24	I used the latest resources to improve my English skills.	3,61	medium
Total		3,63	medium

Based on table 13 above, the highest score founded on the statement “I can read English very well” with a mean of 3, 93. On the other hand, the lowest statement was “I have a good knowledge of English grammar and vocabulary” with a mean of 3.29. Overall, the Content Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is at the medium level with a mean of 3,63. However, there are some statements that still get below the total average such as in grammar, vocabulary, and speaking.

4. Technological Pedagogical Knowledge (TPK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Technological pedagogical knowledge is knowledge about how technologies can be facilitators of pedagogical approaches in learning.

Based on the data analysis, the Technological Pedagogical Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

No	Question items	Mean	Category
25	I can select technology that can improve language teaching approach.	3,80	medium
26	I can select technology that can improve students learning in grammatical and vocabulary.	3,53	medium
27	Teachers training program made me think more deeply about how technology might affect the teaching approach I use in my classroom in the future.	3,95	medium
28	I can use the technology I was learned to different classroom activity.	3,66	medium
29	I can thinking critically about how to use technology in my class	3,80	medium
Total		3,75	medium

Based on table 14 above, the highest score founded on the statement "Teachers training program made me think more deeply about how technology might affect the teaching approach I use in my classroom in the future" with a mean of 3,95. On the other hand, the lowest statement

item was “I can select technology that can improve students learning grammatical and vocabulary” with a mean of 3,53. Overall, the Pedagogical Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is in the medium level with a mean of 3,75. However, there are some statements that still get below the total average such as how to integrate technology in the different learning activities.

5. Technological Content Knowledge (TCK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Technological Content Knowledge is knowledge about how technology and content are interrelated. Technological Content Knowledge refers to knowledge of how technology can create new representations for more specific content.

Based on the data analysis, the Technological Content Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

No	Question items	Mean	Category
30	I know about technologies I could use to understand and do grammatical and vocabulary.	3,70	medium
31	I know about technologies I could use to	3,91	medium

	understand and learn English skills.		
32	I know about technologies I could use to understand and practice English.	3,83	medium
Total		3,81	medium

Based on table 15 above, the highest score founded on the statement "I know about technologies I could use to understand and learn English skills" with a mean of 3.91. On the other hand, the lowest statement was "I know about technologies I could use to understand and do grammatical and vocabulary" with a mean of 3.70. Overall, the Technological Content Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is at the medium level with a mean of 3,81. However, there are some statements that still get below the total average such as about technologies that can use to understand grammar and vocabulary.

6. Pedagogical Content Knowledge (PCK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Pedagogical content knowledge is knowledge about how to learn and implement lessons on specific content.

Based on the data analysis, the Pedagogical Content Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

Table 16

Pre-service English Teachers' Pedagogical Content Knowledge Result			
No	Question items	Mean	Category
33	I know how to creat lesson plan	4,09	high
34	I know how to choose effective teaching approaches to guide students learn grammar and vocabulary.	3,66	medium
35	I know how to choose an effective teaching approach to guide students in English skills.	3,70	medium
36	I know how to choose effective teaching approaches to guide students in English practice.	3,64	medium
Total		3,77	medium

Based on table 16 above, the highest score founded on the statement “I know how to create a lesson plan” with a mean of 4.09. On the other hand, the lowest statement was "I know how to choose effective teaching approaches to guide students in English practice" with a mean of 3,64. Overall, the Technological Content Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is at the medium level with a mean of 3,77. However, there are some statements that still get below the total average such as how to choose effective teaching approaches they faced with certain teaching materials.

7. Technological Pedagogical And Content Knowledge (TPACK) readiness of pre-service English teacher of UIN Antasari Banjarmasin

Technological Pedagogical and Content Knowledge is knowledge about how to facilitate student learning of certain content through pedagogical and technological approaches. Technological Pedagogical and Content Knowledge refer to the knowledge required by teachers to integrate technology into their learning activities in the content area.

Based on the data analysis, the Technological Pedagogical and Content Knowledge profile of pre-service English teachers of UIN Antasari Banjarmasin 2016 is obtained in the following table:

Table 17 Pre-service English Teachers' Technological Pedagogical and Content Knowledge Result			
No	Question items	Mean	Category
37	I can teach lessons appropriately by combining, learning materials, technology, and teaching methods.	3,45	medium
38	I can use strategies that combine the materials, technology, and teaching learning I had learned to my classroom in the future.	3,75	medium
39	I can select technology that can improve the quality of teaching materials.	3,60	medium
40	I can select the appropriate technology to be use in classroom so that I can improve students English skills.	3,69	medium
41	I understand what I teach and how I teach.	3,91	medium

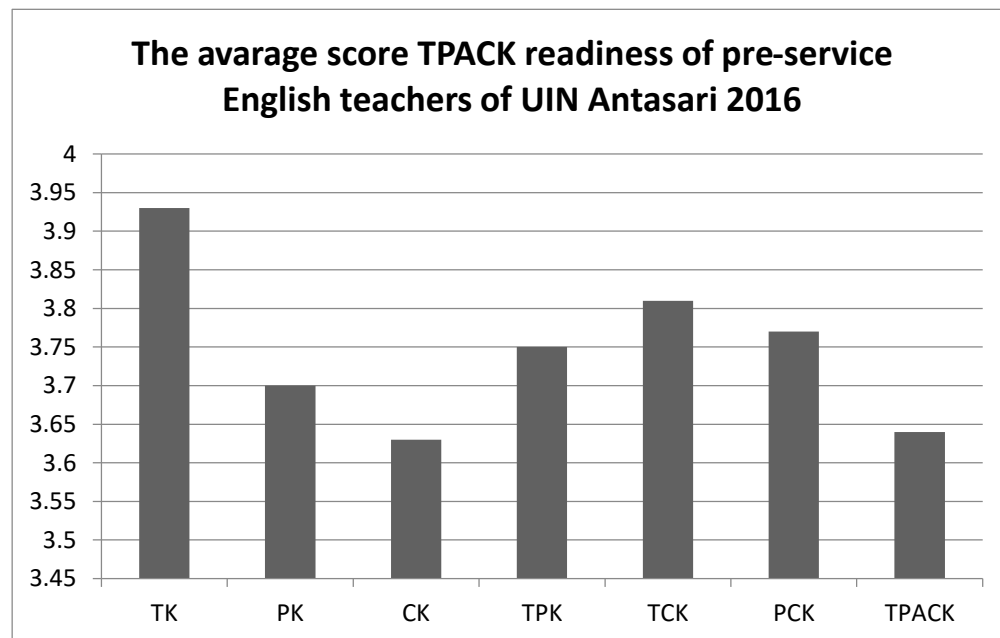
42	I can teach lessons that properly combined grammatical, vocabulary, technology, and teaching methods.	3,66	medium
43	I can use teaching materials that combine english skills, technology, and teaching approaches.	3,64	medium
44	I can help others to use technology in teaching methods and materials in classroom	3,54	medium
45	I can combine teaching methods, technology, and materials exactly when I'm teaching	3,60	medium
Total		3,64	medium

Based on table 17 above, the highest score founded on the statement “I understand what I teach and how I teach.” with an average value of 3,91. On the other hand, the lowest statement was "I can teach lessons appropriately by combining, learning materials, technology, and teaching methods” with a mean of 3,45. Overall, the Technological Pedagogical and Content Knowledge readiness of pre-service English teachers of UIN Antasari Banjarmasin 2016 is in the medium level with a mean of 3,64. However, there are some statements that still get below the total average, such as, how to select technology that can improve the quality of teaching materials, and how to combine teaching methods, technology, and materials exactly when teaching.

B. Discussion

The researcher obtained descriptive information about the TPACK readiness of pre-service English teachers of Antasari State Islamic University. The results of the study have shown that the pre-service English teachers 2016 of Antasari State Islamic University generally had sufficient TPACK (M=3,64 is at medium level). It indicates that pre-service English teachers are ready to implement TPACK in classroom. However, the results are still at a medium level, pre-service English teachers of UIN Antasari Banjarmasin 2016 still need materials related to technology integration in learning.

The chart shows the data on the totality of mean comparisons.



Based on the chart above, it was found that the pre-service English teachers of UIN Antasari Banjarmasin 2016 had the lowest score in Content

Knowledge (CK) (M=3,63), and Technological Pedagogical and Content Knowledge (TPACK) (M=3,64). This reflects that pre-service English teachers still have much less understanding of the teaching material that they will present in a classroom. The lack of content knowledge makes the pre-service English teachers of UIN Antasari Banjarmasin 2016 less able to maximize technology related to content. This lack of content knowledge results in low TPACK, particularly related to teaching lessons appropriately by combining learning materials, technology, and teaching methods. In order to develop TPACK, it must be preceded by mastery of the content to be taught and how to teach it, this is the basis for integrating technology in learning. In short, content knowledge is the foundation for teachers to be able to teach integrating technology in learning. (Koehler, et al., 2011)

On the other hand, Technological Knowledge (TK) of pre-service English teachers of UIN Antasari Banjarmasin 2016 had the highest average score among all TPACK domains (M=3,93). This indicates that they are familiar with the technology. However, the teachers still need to be advanced on the many different types of technology for the average on the thing gets below the total of average. As a pre-service teacher, knowing various technologies is important, but it should be realized that not all technologies are created for learning purposes. Therefore, more than knowing technology, what is more important is being able to think critically about technology,

knowing when and why to use technology in learning. (Kereluik, Mishra, Fanhoe, & Terry, 2013)

Pedagogical Knowledge of pre-service English teachers of UIN Antasari Banjarmasin 2016 still need to be improved in terms of classroom management, use of learning strategies and assessments, adjustment of learning to student characteristics, and overcoming misconceptions of the students since the scores of some of these things get below of total average. Knowledge of the general planning and procedures of the learning must be maintained and continued to be increased so that the pre-service English teacher will be able to teach properly according to the procedure.

Related to the other domain of knowledge which is a combination of three basic knowledge, there are several things that need to be improved. On the Technological Content Knowledge (TCK) the pre-service English teachers already have a good ability in preparing lesson plans. However, they need to be improved with the ability to select the technology that can improve students learning grammatical and vocabulary. On Pedagogical Content Knowledge (PCK) the pre-service English teachers need to improve the ability to choose effective teaching approaches to guide students, especially in English practice. On Technological Pedagogical Knowledge (TPK) the pre-service English teachers need to improve their ability to integrate technology in the different learning activities.