

CHAPTER IV

RESEARCH FINDINGS

This chapter presented the research findings that derived from statement of research problems. As mentioned in research problems, those research problems were included students's perception on the target need, and students' perception on learning need.

A. Data Presentation

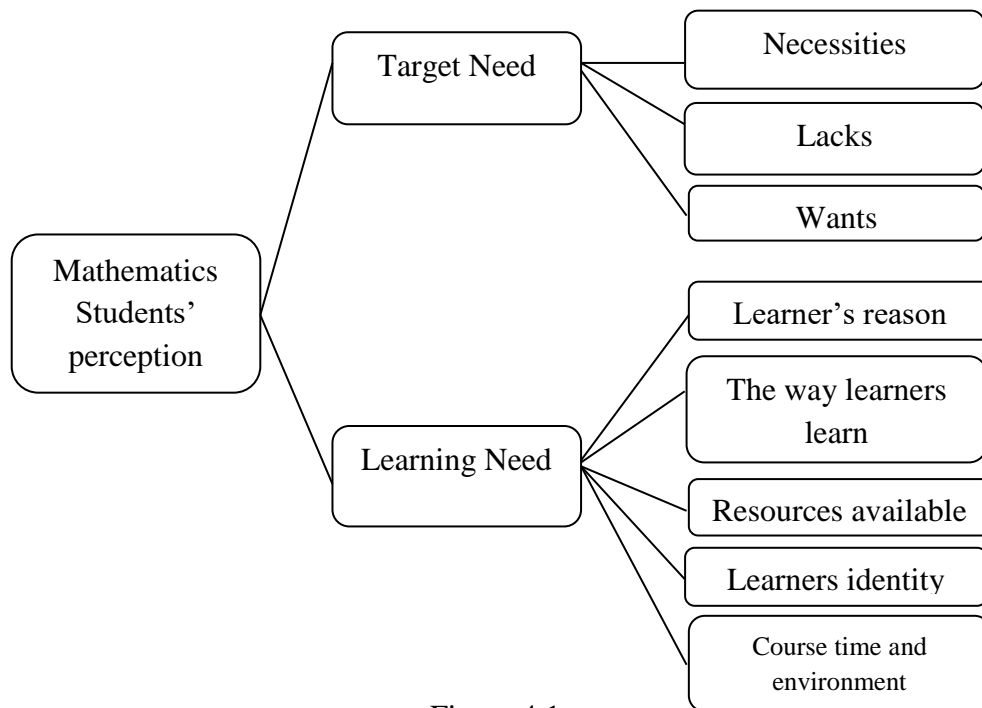


Figure 4.1
Data Presentation

Data presentation was the way to present the data that collected by the researcher. The data presentation is taken from questionnaires and interview with fourth semester students of Mathematic Education Department of State Islamic Institute of Tulungagung. There were 35 subjects who had been fullfilled the questionnare and four informants (I1, I2, I3, and I4) had been interviewed. There

was also a lecture had been interviewed. That data explained mathematics students' learning needs in learning English based on their perception were:

Target need consist of a number of important point. They are necessities, lack, and wants. Necessities is a need determined by demand. Lack is the learners' weakness. Wants is necessities determined by learners' point of view.

Learning need developed based on learners' reason in taking course, how do the learners learn, resource that available, learners' identity, and also course's environment and frequency.

The strategies that used by students' during learning process was individual learning and discussion. Individual learning means student learn by their self to solve the problem that may occur when the face the difficulties. Discussion also did by learners to share and talk over their understanding about the material they learn.

B. Data Finding

After doing depth interview with Mathematics students at IAIN Tulungagung and also spread the questionares, the informations that have been found by the researcher from the research are as follow:

1. Target need perceived by mathematics students through learning English for mathematics

Target need include three kinds of need they are necessity, lack, and want. To determine the destination in learning we have to know the target need . Based on interview from Mathematics students about their target need, the finding of the

research in term of necessities, lacks, and wants were described in the following explanation:

a. Necessities

Necessities is the type of need which is determined based on the demands of the target situation. In this case, necessity deal with the language used and forms that needed by mathematics students to support their performance in the learning and teaching.

According to the data from questionnaires, twenty six students answered this course help them to understand the material in another course. Especially, through this course they can understand some of mathematics references which is written in English. Because for several subject, the lecturer suggest the references which originally use English. Some participant reveal there are many matematic books comes from outside country and usually its more completed.

Based on the interview from Mathematic students about necessity in learning English, the I-2 explain as stated below:

“Because the sourcesof mathematics is come from the westerner, and there are many mathematical books are from there and all the original from there and only a few scientists who translate into Indonesian, so it is important for mathematics students to learn English. Because we also need to examine the books for our knowledge.”(See Appendix 5)

Moreover the I-4 said beside some references use English and also the lecturer habituate the students to be familiar with English.

... ““Because sometimes in the books and the language of mathematics are using English. Sometimes even the lecturers usually teach us like geometric, it used in English. Usually. Because to avoid lag from the others. Like that”. (See Appendix 7)

From the excerpt of statement above , it is prove that mathematics students were expected to mastering English because they have to accustom with English and also understand mathematics book which is written in English. Moreover, some mathematic materials which is written in English is provided not only for college students but also for students in lower level. So when they were be a teacher, they can deliver the material to students when they can undersand it well.

The I-1 say that:

... "I've seen in mathematics books in one of the schools, some are using English for mathematics subjects. So later on if we are be a mathematics teacher we should be able to speak English also, more or less like that. " (See Appendix 4)

Learn English is important and needed as provisions because they can not only depend on their mother languase or Indonesian. As the I-3 said:

"Learning English is really important. Because we will also do not know where we will go (for work). For example, if become a teacher, it is impossible only used Indonesia at the longest, maybe we need another reference that may be in English so we need a strong ability in English language. " (See Appendix 6)

According to the the utterances above, we can see that mastering English is a necessity to support their future work in whatever occupation later . In addition to necessity in learning English, mathematics students should also develop

English skills they have because of the demand. It support by interview data from informant that say:

“Developing English skills is very necessary. Because, if we just depend on the Indonesian language only while in contemporary era is different from the past. So if we had such a capability while others have more abilities so we would see our chances for work or to develop our knowledge is limited.” (See Appendix 7)

Moreover, the result of interview with the English lecture reveal that students needed English proficiency or skill because it was a requirement competence. Beside that students also need this subject to prepare for TOEFL test and prepare themselves to continue their study to graduate program.

b. Lack

Practically, in the learning process not all students are able to learn English perfectly. This is caused by some lacks possessed by mathematics students. The first is the average ability level of mathematics students in the field of English is less. Based on the questionnaire, 29 students reveal that mathematics students have low ability. When the researcher ask about the ability of mathematics students in the field of English, the I-4 state in interview as follow:

“Emmm... I think low” (See Appendix 7)

I-3 explain the mapping of students' ability level which show most of their are under the average. It is support by opinion from informant in interview:

...“If in my class does some people stand out. Emm, maybe if in general the ability (students majoring in mathematics) is still low average.” (See Appendix 6)

Moreover , I-2 affirm the statement about students ability as stated below:

“In average is middle to low” (See Appendix 5)

This condition is not because they aren't smart students, but it's more caused by the focus of mathematics students in learning are not to the language aspect. Like the following interview with I-1 excerpt:

“Because if the math majors, the tendency is not to the language.” (See Appendix 4)

Another disadvantage that the students have is the assumption that English is more difficult when its compared with the native language of the speaker which in this case is the Indonesian language. When the researcher ask about it, the I-1 explain the level of English difficulty like the citation below:

“I think it's very difficult anyway.”(See Appendix 4)

What makes English more difficult to understand is in terms of understanding the meaning and sentences compiling are different. Sometimes, students are forget about the meaning of a word or getting wrong in arranging sentences. As like I-3 say in interview below:

...“Sometimes forget what it means, what it sense. While sometimes in English there is like the stucture of the sentence. So often misunderstand it.” (See Appendix 6)

Actually, every language always have a pattern in composing sentences. But each language has their own pattern and it is not always same each other. So, it is sometimes may confusing.

According to I-3, in the process of language transfer, English for mathematics can not be translated directly into the Indonesian language.

*... "Because the meaning not totally same with if we used Indonesian. For example, the word **neighbors** means **tetangga** (the person who live around us). But if in mathematics it is not, the meaning is **sekitaran**. Well so like the transfer of language is not directly translated. But like there are own meanings in mathematics. So that might make it rather difficult And we are accustomed to use Indonesian..."* (See Appendix 6)

Based on the statement above, the difficulty is supported by learning habits where students accustomed to use the Indonesian language. Eventhough some of their material use English, they feel easy to use Indonesian. In addition, I-2 stated:

"like to analyze if using English is more difficult. We must translate first, it just more difficult." (See Appendix 5)

Inappropriate meaning between English for mathematic with English that they have learn before make informant ever found difficulties when they have to translate it. Because commonly, the informant usually translate by literal meaning. As like I-3 say in interview:

"Yeah, sure. Because, its means not the same with if we translate one by one" (See Appendix 6)

The frequency of this difficulty found by informant belong to often because informant thought there are differences in some meaning. Beside an inappropriate meaning when English for mathematics translated literally, the informant also express their feeling that English which use for daily communication has a different term with English for mathematics. The informant stated in interview as follow:

“Sangat sering. Terkadang arti dari Bahasa Inggris untuk keseharian dan Matematika kadang tidak sama.”

Based on questionnare, 34 students stated vovabulary, 31 reveal grammar, and 29 students felt pronunciation as their difficulties . When researcher ask about the main difficuties that ever found in understanding mathematics material which written in English, the informants said it is usually deal with vocabullaries that affected in translating. As informed by the I-1:

“A difficult vocabulary.” (See Appendix 4)

Furthermore I-4 described vocabulary in a mathematical context will give a different meaning if interpreted one by one.

“Understanding what its means. Usually we translate it one by one while if translated one by one it will be different.” (See Appendix 7)

So, in general, the difficulty that is often experienced by students is in terms of vocabulary because mathematics should be interpreted in context meaning. Not literal meaning. Beside that matematics students also do not

accustomed to use English for daily learning process, so they often found difficulties.

c. Want

In this research, student wants deal with the student awareness of mathematics student to learn the language (English). In this case student aware of the role of language to support their work in the real field. It is deal with the desire of learned the language in certain purposes.

From the data of questionnaires, it was apparent that most of the participants want to increase their speaking ability (consist of 31 students), listening skill (consist of 25 students), increase reading ability (consist of 22 students), and the last is to improve their writing skill (consist of 21 students).

According to the I-4 explanation, they were consider the speaking and listening skill rather than the need of English itself in passing examination.

As I-4 said that:

“Speaking. Because the pronunciation is awful, it should read like this but it still not been able to maximize pronunciation yet...”
(See Appendix 7)

The other informant gave the addition that beside speaking, listening and reading also important rather than learn about grammar. As stated by I-3 in citation below :

“Maybe it is more to skills. For this time the more needed it is not memorized grammar, but more to the skill. Most important is speaking and listening. Reading also. We should look for book literature. So the reading skill should be good too.” (See Appendix 5)

Generally, the mathematic students were ascribed to medium-low language skill, and they decided to study English in order to fulfill their obligation to course. According the researcher point of view, it assumed that the students wants is be able to communicate well while having communication, increase their listening skill, and also able to read and write material in English.

2. Learning need perceived by mathematics students through learning English for mathematics

Learning need, it is the knowledge and abilities that required by the student to perform the degree of competence in the target situation. In response to the learning need percieved by Mathematics students through learning English for mathematics, this study will reported the results and discussed under six parts:

a. The learners' reason in taking the course.

This part of study would see if the purpose of establishing English course matched with the students' motivation. The students were asked their reason in learning English through interview and answering the question. Whether they took the course caused by an obligation, apparently needed the course, or had a fondness. In this context, need were devided into the students' need for reading Mathematic material, for a TOEFL test, for a job application, and for future work.

From the questionnaires, it was apparent that 34 of the participants took English course since they had an obligation to take it. In addition, the 34 students stated their reasons of taking the course were for joining a TOEFL test and apparently needed. Moreover most of the students were reported that they needed the English course in which some said for job application (stated by 33 students),

for future working (stated by 30 students), for reading Mathematics material (stated by 19 students), and having a fondness to take the course (stated by 17 students).

From the interview, researcher got some the data deal with students' reason in taking English. The first was English course categorize as obligatory subject in State Islamic Institute of Tulungagung. Just as stated by I-1, and I-3:

"Because it was obligation (to take it)." (See Appendix 4&6)

In other word I-2 stated as follow:

"To fulfill the course" (See Appendix 4)

Besides that through this course, students' can improve their skill. Lastly, this course also apparently needed for the future. Researcher got this argue from data interview with I-4:

"First, the subject was set by college. Second, I think it supports the student's ability. Language skills. I think it's very useful for my career or my future." (See Appendix 7)

English course was a requisite course. Students needed English since it has been the language used in some text book. Through this course, students learned to understand Mathematics material which is written in English. Moreover, it is also help students in TOEFL test preparation which later would be examine in the end of semester.

The data from questionnaires and interview suggested that students showed enthusiasm in learning. To this point, 34 of the participant found this course was helpful to support their learning such as for understanding some mathematics

references and also fight for TOEFL examination. In other words, the purpose of this course matched with their needs to support students learning process and help them in preparing for future work.

b. The way the learners learned

The topic related to the way the learners learned covered 3 questions deals with students' perception toward teaching technique: the concept of teaching and learning, the teaching method that interesting to them, and the teaching method that alienates the students.

The students' perception toward the teaching concept would explain the teaching and learning method applied on their study. According to the data from questionnaire, 20 students answered the lecturer's presentation, out-of-class activities (answered by 18 students), class discussion (answered by 16 students), and students' presentation (answered by 14 students) as their teaching technique concepts. None of the participants considered game and teaching using Audio Visual Aids as their teaching technique concept, even though the two methods had high percentage as interesting teaching technique.

When the researcher ask about teaching technique concept, the I-1 explain in interview as follow:

“Presentation of materials in the classroom or group discussions or out-of-class practice lessons” (See Appendix 4)

While I-4 argue:

“Presentation of materials by lecturers and students. So between lecturers and students must be correlated each other.” (See Appendix 7)

In addition, I-2 stated in the interview as follow:

“We are both learning and teachers more as a facilitator and give the good direction or instructions.” (See Appendix 5)

Moreover another informant state the teaching technique concept like citation below:

“So it can be said there is teaching and learning process if there is teaching and learning activities, when there are three-way communication in the classroom. So there are lecturers with students, there are students with lecturers, so lecturers who lecture and also students’ discussion, and also interaction between each students.” (See Appendix 6)

The next part to be analyzed was interesting teaching technique. The result of questionnaires showed that students had varied perception towards the interesting teaching techniques applied. Deals with interesting teaching technique, according the data from questionnaire, 24 students reveal that they were interest with game. Then following by teaching using AVAs (stated by 23 students), out-of-class activity (16 students), lecturer’s presentation (13 students), classroom discussion (11 students), and students’ presentation (stated by 9 students) as interesting teaching technique.

Deal with the interesting teaching technique, the researcher got this argue from the I-1:

“Practice or use instructional media.” (See Appendix 4)

Other informant stated game as interesting teaching technique to obtain the monotonous. As citation below:

"... Which there is a game. Because , when we have the presentation of material continually, usually without any games, but the game is the matter because to make the class alive, not monoton..." (See Appendix 7)

In addition, I-2 explain that game will make students easy to catch the material. As express in the interview below:

"In my opinion, learning using game.. Because if students are invited to learn through game, the knowledge will enter into the brain easily." (See Appendix 5)

Other informant also explain that they need some trick and media in learning English. As stated in the interview with I-3 as follow:

"... prefer to be given some tricks. The point is we are not so bored. We are given a trick of something like quick tricks for example. In addition, learning in the class with the media also interesting, movies for example. " (See Appendix 6)

The students were interest in having game and using AVAs through learning because this was kind of fun method consider English was one of difficult subject for them. However, their responses also revealed that they also needed some variation in teaching such as studying outside the classroom, having some practice with the peers, or get some discussion to avoid te boring.

Lastly, 23 students answered students' presentation and 15 students answered lecturer's presentation as the major uninteresting teaching techniques, followed by class discussion (answered by three students), and out of class activities (answered by two students). None of participant answered game and AVAs as alienating teaching technique. The participants found that they did not like any teaching method that only focused on either the students or the lecturer.

They preferred to have some time to pay attention when their lecturer present some media or game in learning.

The interview result suggested that the informant explain that students' presentation can be an uninteresting teaching method, as revealed by I-2:

"Students' presentation. Because the ability of students not enough yet and definitely complicated." (See Appendix 5)

Beside that, students' also dislike monotonous lecturing as the teaching technique applied in class. I-1 stated the uninteresting teaching technique as bellow:

"Lecturing" (See Appendix 4)

I-3 give more addition as stated in citation as follow:

... "when there is no inovation. Such as doin exercises all the time, or lecturing but never writing on the board. So, it be boring lecturing. There are many kinds of lecturing, but maybe the lecturing was not interactive." (See Appendix 6)

Beside monotonous lecturing, the lecturing without any explanation, didn't guarantee that the students' understand, as explain by I-4:

"... the one which the lecturer just read the paper by displaying the projector and don't want to know whether the students understand or not. If the students are silent it is considered to be understand. Actually, not always."

According to the informant, there are kinds of lecturing, but uninteractive lecturing will create an un pleasant and boring atmosphere in the classroom. Beside that, it's important to check the students' understanding, by doing discussion or asking some question.

Lecturing was classical technique. Even the lecturer stated in the interview that classical technique was boring. Students would be sleepy when they only have question and answer activity. Teaching and learning process which only textbook based is boring. So the textbook is only a guidance and lecturer should be develop it as creative as possible.

c. The resources availability

The resources availability in English teaching covered the attitude of English lecturer, the materials, and the AVAs. Firstly, this study would find out the students' perception toward the attitude of English lecturer. The data presented below indicates the students' responses related to the attitude of their English lecturer.

Through the questionnaires, the students answered that the English lecturer mastering the materials (reveal by 25 students), explaining the materials clearly (reveal by 24 students), and showed a positive attitude towards the course (reveal by 21 students). Only 15 students answered that the lecturer showed an enthusiasm in teaching and 13 students stated that the lecturer is well-prepared in teaching. Through the interview, the informant revealed that the lecturers have mastering the material well. Like I-1 stated in the citation below:

“Just so so. But mastering the materials enough.” (See Appendix 4)

It also stated by I-3 as in interview below:

“Mastering the material. The enthusiasm is good...” (See Appendix 6)

As affirmation, the researcher also found that I-4 also stated the enthusiasm of lecture like below:

“Enthusiastic enough in teaching.” (See Appendix 7)

In addition, I-2 reveal that the interaction to the students was less. As explain below:

...“As long as now, the mastering material was good enough, but it less interactive with the students.” (See Appendix 5)

The informant also explain that the lecturer have various characteristic. Some of them give the students an assignment when the lecturer were absent. The other lecturer consider that all students have the same ability.

The next aspect to be analized was the students' perception toward the teaching material used. State Islamic Institute of Tulungagung also provided guided book in teaching and learning English for English course.

From the questionnaire data, it was shown that the participants answered that the material used was relevant to learning needs (answered by 30 students), comprehensive (answered by 26 students), interesting (answered by 21 students), easy to understand (answered by 18 students), relevant to present issue (answered by 18 students), and balance between the theory and application (answered by 13 students). Researcher also got data from interview with I-3 as stated below:

“...it was match with the needs. Because what lecturer explain match with the subject...” (See Appendix 6)

Furthermore, I-4 explain that the material was comprehensive enough. As revealed below:

“ In my opinion, the material was comprehensive. Because college provided us the material started from the first semester untill now, and the book was complete.” (See Appendix 7)

On the other hand, students perceive that they did not feel the material used balance between theory and application (answered by 22 students), easy to understand (answered by 17 students), relevant to present issue (answered by 17 students), interesting (answered by 14 students), comprehensive (answered by nine students), and relevant to learning needs (answered by five students).

From the result of interview , researcher got this argue from I-3:

“...but, it was unbalance between theory and practice...” (See Appendix 6)

AVAs or teaching aids was the last aspect to be analyzed. Eight participants stated that the teaching aids were interesting, while 20 participants stated it was helpful, and it was satisfying based on 22 students.

d. The learners' personal history

The learners' personal history would reveal the students' history in learning english especially their previous study, interests in learning, and attitude to English as well as its culture.

Most of students has been learn English between eleven to fiveteen years (there are 33 students), one of participant learn English less than ten years and one of participant has learn English more than fiveteen years. But, for practicing English only a few student applying English for their daily communication, whether with their friends, family, lecturer, even in lecturing process. Eight students stated they never practicing English through lecturing process, 28 students they never practicing English with their family, 15 students stated they never practicing English with their friends. While 22 students reveal they never using English through the lecturer and nine students reveal they never used English through social media. From the interview, all informant stated that they were rarely use English in their communication.

The next aspect to be analyzed was students' perception of interest in learning English and its culture. So far, the students stated that English was important (stated by 28 students), useful (stated by 27 students %), difficult (stated by 15 students), interesting (stated by 7 students), and boring (stated by two students). The researcher also found that 25 of participant stated that English culture was interesting and 10 of them found it was applicable for daily life. In addition, students also stated the culture was interesting but only a few culture that can be apply for daily life as Indonesian. On the other side researcher also found , students stated lifestyle of native English speakers was interesting (stated by 21 students) but only three of them stated it was applicable.

e. The time and situation where the course took place

Mathematics students are required to take the English courses for three times, in the first semester, second semester, and fourth semester. Each course is taught for two hours per week. Since this major focuses on mathematic content courses, English is taught as an additional subject only to support their learning. This study found that the participants considered the two hours of meeting for each English course was enough. Two hours for each week is same with the material has two credit (2 SKS). This study found that participant consider that two hours for each week was enough (stated by 30 students). Four of participants stated not enough and one of participants consider to long.

Data from interview showed all informants (I-1, I-2, I-3, I-4) consider the time was enough. But for all those material, I-4 stated need more frequent of meeting in a week for discussing all those material. As the citation of interview below:

“The number of hours is enough. But the frequency is still lacking. Usually 2 credits. 2 credits is okay but two times a week, do not once a week. Because if the material is a bit is nevermind, if there are many materials, it will be piled together then finally forgot.” (See Appendix 7)

According to them, this course had supported their learning especially to understand the mathematics material because some of their references use English.

This study also reveal the students' perception perceptions and needs related to the ESP classroom which covered the pleasantness, quitness, temperature.

The data from questionnaires showed students found pleasantness (stated by 14 students), quitness (stated by 15 students), temperature (stated by 12 students), brightness (stated by 21 students), and classroom atmosphere (stated by 13 students) were good. In opposite, students opine their uncomfortable of the English classroom of pleasantness (stated by four students), quitness (stated by three students), temperature (stated by 10 students), brightness (stated by eight students), and classroom atmosphere (stated by three students).

The data express that the classroom was comfortable enough to learn according to the pleasantness. The surrounding inside of the classroom were not too noisy and the brighthness was good. Usually the noise came from the outside of class which often create distraction. But the temperature of the class make students less comfortable. Further, the lecturer explain that mathematics students have high motivation in learning especially in creating good classroom environment. As describe in interview below:

"Conducive. If the Mathematics students they were conducive and calm, it is not like other occasional majors which sometime noisy. If mathematics is more orderly. I think their motivation is higher. If there is a students being noisy the other friends reminded."... (See Appendix 8)