



Case Study of Student Anxiety in Solving Break-Even Point Questions Based on Gender in Indonesia

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Article info

Article history:

Received: November-2019

Revised: December-2019

Accepted: January-2020

Publish: March-2020

DOI:

doi.org/10.31960/ijolec.v2i2.318

Keywords:

Student Anxiety;
Solving Problems;
Gender.

Abstract. Anxiety is an uncomfortable feeling that arises when a person faces problems. This study aims to describe students' anxiety in solving problems based on gender. This research is a qualitative descriptive research with intrinsic case study approach. In this research, the data was collected by video recording, interview and test. Instruments used in this study are video, interview guides, and questions of test. The validity of data was tested by using time triangulation. The subjects were confident when they had solved the problems faced. Subject 2 misunderstood about the basic knowledge and BEP formula, which can be seen from her answers. In solving problems, the subjects forgot about BEP formula, could not concentrate, and were confused in solving the problems faced. The subjects were not confident when they succeeded in solving the problems they faced.

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INTRODUCTION

Anxiety is one form of individual emotion that is associated with a sense of being threatened by something, usually with an object of threat that is sometimes not so clear.

Business math anxiety is a feeling of tension and fear that affects one in many ways when one faces business math problems in the real life as well as in academia (Erdogan, 2012). For some people, dealing with numbers or mathematical situations is evoking an emotional response interfering with their performance (Suárez-Pellicioni, Isabel, & Àngels, 2016).

Basically, this makes most students end up avoiding business math. In general, one's business math anxiety in solving problems can be identified from 4 indicators, namely

(Cooke, 2011): (1) Business mathematics knowledge or understanding is associated with the emergence of a thought that one does not understand about the knowledge of business mathematics; (2) Somatic is associated with changes in individual's body states such as sweaty body, dry mouth, fast heartbeat, discomfort, worry, or anxious; (3) Cognitive is associated with changes in a person's cognition when dealing with math, such as not being able to think clearly or forgetting things that one can usually remember; (4) Attitude is associated with the attitude that arises when a person has business math anxiety, for example not confident to do what he/ she is asked or reluctant to do so. Erdogan (2012) defines anxiety as a tension and fear that affects in many ways when one is facing problems in real

life as well as in academia. In general, one's business math anxiety when solving problems can be identified from mathematics knowledge/ understanding, somatic, cognitive, and attitude (Cooke, 2011). Meanwhile, women show higher level of math anxiety overall than men with unclear reasons (Eden, Heine, & Jacobs, 2013).

In the interview, some students stated that break-even point is a confusing and difficult material. This allows students to be anxious when solving a problem about break-even point. Math anxiety has an equally disadvantageous impact on math achievement, regardless of situational and social experience in answering math questions (Sarah et al., 2012).

The purpose of using break-even point in planning, controlling and decision-making is to achieve successful planning, control and decision-making, due to the impact, efficiency, and accuracy in decision rationalization (Alnasser et al., 2014). This is consistent with the statement that break-even point is directly related to fixed costs, reducing and controlling costs, helping in achieving a lower break-even point to achieve faster profits with the following formula (Aswal, Kumar, and Gupta, 2014): Break Even (in sales) = $\frac{\text{Fixed Costs}}{C/P}$, $R=C$, where R is revenue generated, C is cost incurred i.e. Fixed costs + Variable Costs or $Q \times P$, (Price per unit) = $TFC + Q + VC$ (Price per unit), $Q \times P - Q \times VC = TFC$. In which: TFC is Total Fixed Costs, P is Unit Sale Price, and V is Unit Variable Cost.

Gender is an attribute of both men and women, which is socially and culturally constructed (Sugihastuti & Sastriyani, 2007); for example, woman is known to be gentle, coquettish, emotional, or motherly, while man is considered strong, rational, manly, and mighty. It led researchers to conduct a research on student anxiety based on gender.

The purpose of this study is to obtain

information, description, and analysis of cases of anxiety in 2 students in solving break-even point problems in introduction to business class, based on gender. It describes student anxiety when solving problems on break-even point in introduction to business class on students of STKIP PGRI Jombang, East Java, Indonesia. This research used test questions on break-even point in order to help the researcher get an idea about anxiety on break-even point in introduction to business class happened to the students when solving the problem.

Based on the background that has been described above, the limitations of the problem in this study are: (1) Material of questions is only limited to break-even point; (2) This research is only limited to in-depth analysis of case of 1 female student and 1 male student of Study Program of Economics Education, class 2015-B, STKIP PGRI Jombang Indonesia.

METHOD

Some researchers describe the characteristics of qualitative research, namely (1) it is naturalistic because it is done according to the actual state as a source of data, and researchers are as the main instrument; (2) the data is descriptive because the data collected is qualitative, such as a series of words or writing; in this case, the data is in the form of the work of the subjects; (3) it is inductive because it is not intended to prove the hypothesis, but it is intended to describe a phenomenon. Because these characteristics are in line with the characteristics of this research, thus this study is a qualitative research (Bogdan & Biklen, 1998).

The focus in this research is student anxiety in solving break-even point problems based on gender. The sub-focuses in this study are as follows tabel 1:

Table 1 Indicator of Students Anxiety in Solving Problem about Break-Even Point Based on Gender

Student Anxiety in Solving Problems	Description of Indicator
Business Mathematics Knowledge/ Understanding	State of the understanding of basic knowledge and business math calculation, namely concept, formula, addition, subtraction, multiplication and division
Somatic	1. Changes in physical condition (characterized by sweaty body), or 2. State of physical comfort, (worry/ anxiety in solving problems)
Cognitive	1. State of concentration (cannot concentrate), or 2. State of memory (forget common knowledge), or 3. State of mind stability (confused)
Attitude	1. State of behavior (lazy), or 2. State of personality (not confident)

Research subjects are informants who provide research data through instruments that have been selected by researchers. Subjects in this study are students of Study Program of Economic Education class 2015-B, STKIP PGRI Jombang. The subjects were randomly chosen based on gender by using draw; 1 student is male and 1 student is female. Those two students were then given tests to examine the anxiety that occurred.

Data collection method used in this study is adjusted to the limitations of problems, research questions, and research objectives, as follows: (a) *Video*. In this research, the data was collected by recording video to get real situation and condition (student behavior) in solving business math problem; (b) *Interview*. To clarify the video and tests using hand phone recorder. The steps of interview: (1) determine the interviewee, (2) prepare the subject matters, (3) start the interview, (4) conduct the interview, (5) confirm the summary (main points) of the interview result, (6) write the results into field notes, (7) Identify follow-up of interview results; (c) *Test*. The form of test that would be given in this research is subjective test (description).

Triangulation is a technique of checking the validity of data that utilizes something else. This research would use time triangulation technique. The researcher can check the consistency, depth, and accuracy of the data by performing time triangulation. Testing the credibility of data with time triangulation was done by collecting data at

different times.

Data analysis technique used in this research is qualitative data analysis. Qualitative data analysis is a process of systematically searching and arranging data which was obtained from the videos, describing into units, synthesizing, organizing into patterns, and selecting what is important and what will be learned, so that it can be understood easily.

More detailed analysis of data in this study is as follows: (1) *Data reduction*. The data obtained (in the form of detailed description or report) it was reduced and summarized; (2) *Data display (data presentation)*. To analyze the data easily, it is presented in a table; (3) *Conclusion and verification*. Verification means checking the validity of the report through data that has already obtained. Then, the researcher drew conclusions from all data obtained.

RESULTS AND DISCUSSION

Research Instrument Development

Video. The first video was taken when the subjects were solving the first test on Friday, February 12, 2016. The second video was taken on Wednesday, February 17, 2016. The duration of the video is approximately 30 minutes. The cameras were placed in front of research subjects.

Test. The tests in this study were conducted on February 12, 2016 and on February 17, 2016. The tests were given to 2 randomly-selected students (subjects). The test

questions are 2 descriptive questions, with time allocation of 30 minutes. The test questions in this study had been validated by 2 lecturers.

Interview guides. It was conducted to clarify the subjects' answers on test 1 and test 2. The interview was conducted to 2 subjects at different times. It was conducted after the subjects finished answering the test questions, based on the test results of each subject.

Determination of Research Subject

This study took the research subjects from class 2015-B of Study Program of Economics Education at STKIP PGRI Jombang. The determination of research subjects based on gender was done to choose each group of students randomly. 2 subjects of the study were chosen as MA, as subject 1 (male) and AAF as subject 2 (female).

Data Presentation and Validity of Data

The data in this study was obtained from the video, tests and interview with each subject in solving the problems.

The first video recording was conducted as the subject finished test 1 on Friday, February 12, 2016, showing a female subject on YouTube entitled "The anxiety of having break-even point tasks woman 1" (<https://www.youtube.com/watch?v=TdBrCH2Wkj8>); the gesture or body movements indicate anxiety are: her hand was attached to her face, her hand was above the table as if writing and describing something, her head turning to the left, looking up, writing on the answer sheet, lifting the question sheet and reading closer with straight back and head, starting writing, hand was on her head while hitting her pen slowly on her head, writing again, lifting the question sheet and reading closer with her hand holding her head, and reading again by raising the question sheet and reading closer.

Video recording of male subject on YouTube entitled "The anxiety of having break-even point tasks man 1" (<https://www.youtube.com/watch?v=LsEX9NGuqM>) shows student anxiety, namely: looking ahead (not on the questions), thinking for too long, ducking (not writing), holding his head, scratching his head, turning head to left, reflecting for too long, his body leaning to left, long breathing with face staring forward, right hand reaching into pocket

without taking something (empty movement).

The second video recording was taken on Wednesday, February 17, 2016. The duration of video recording is approximately 30 minutes. The camera was placed in front of the subject. The video recording of female subjects on YouTube entitled "The anxiety of having break-even point tasks woman 2" shows student anxiety such as: starting to read the problems by raising the question sheet, viewing at once, writing again, turning head to the left, reading the question sheet again closely, hands stuck to her head, writing again, reading the question sheet longer with her right hand on the head, and the pen was hit on the head slowly, writing briefly, turning head to the left, moving pen to the question sheet, and moving her right leg.

The 2nd video recording of male subject on YouTube entitled "The anxiety of having break-even point man 2 tasks" (<https://www.youtube.com/watch?v=tAuvCdlyw7I>) indicated that he experienced anxiety; shown by: his hand holding the head and ducking for a long time, writing for a short while and briefly reflecting over and over again without writing, back bending, left hand scratching face, hand was not writing with straight back, putting his left foot on the right foot, starting to check all the answers that have been written after finishing answering the problems, and then collected the answer sheet.


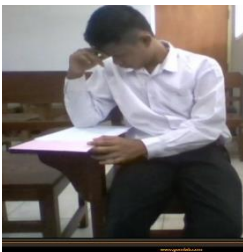


Those tests were given to 2 randomly-selected students who became the subjects of gender-based research. The test questions consisted of 2 descriptive questions, with time allocation of 30 minutes. The test questions in this study had been validated by 2 lecturers.

Data of Video, Test, and Interview

a. Subject 1 (Male)

Based on video on test I (first) and 2nd test for male subject, at first, he seemed to start reading the questions; there is no question about the clarity of the questions. His hand began to write, which means that the started trying to answer the questions of test calmly (can be seen from the body movement), without anxious face expression. However, he looked anxious in answering each question of the test.

Table 2 Validation of Video Recording in I-II Subject 1

RESULTS	I Friday, February 12, 2016	II Wednesday, February 17, 2016	Note
Video Recording	 S1.HRV1.03	 S1.HRV2.03	The subject looked confused when solving the problems given in the tests.
Video Recording	 S1.HRV1.04	 S1.HRV2.04	The subject turned his head to his right.

In table 2, the male subject was anxious in doing 1stBEP test and male subject in doing 2nd BEP test. It is shown by the

following gestures: ducking for a long time and turning his head to his right to think and answer the questions of BEP test.

Table 3 Validation of Video Recording in I-II Subject 1

Recording of Interview	
I Friday, February 12, 2016	II Wednesday, February 17, 2016
<p>P: "Okay, if you really understand, please explain my instructions in question number 1 and 2."(W1.S1.BMK1.04) S1: "Question number 1"(W1.S1.BMK1.05)</p> <div style="border: 1px solid black; padding: 5px;"> <p>a. Buatlah analisis <i>Break Even Point</i> dalam rupiah, unit, dan persentase dari kapasitas! b. Berapa penjualan yang harus dilakukan untuk memperoleh laba Rp. 3.000.000,-! c. Tentukan <i>Break Even Point</i> dalam rupiah jika biaya tetap turun Rp. 2.000.000,-</p> </div> <p>S1: "For question number 2" (W1.S1.BMK1.06)</p> <div style="border: 1px solid black; padding: 5px;"> <p>a. Tentukan <i>Break Even Point</i> perusahaan secara keseluruhan dalam Rupiah! b. Tentukan <i>Break Even Point</i> produk A dalam unit! c. Tentukan <i>Break Even Point</i> produk B dalam unit!</p> </div> <p>P: "After you understand the instructions in the questions, do you (S1) understand</p>	<p>P: Please explain the instructions in question number 1 and 2." (W2.S1.BMK1.04) S1: "In question number 1"(W2.S1.BMK1.05)</p> <div style="border: 1px solid black; padding: 5px;"> <p>a. Tentukan <i>Break Even Point</i> dalam rupiah! b. Tentukan <i>Break Even Point</i> dalam unit! c. Dengan anggapan biaya tetap naik sebesar Rp. 2.000.000,- dan biaya variabel naik sebesar Rp. 1.000.000,-. Berapa penjualan yang direalisasikan supaya perusahaan mendapat laba sebesar Rp. 10.000.000,-!</p> </div> <p>P: "Question number 2?"(W2.S1.BMK1.06) S1: "For question number 2" (W2.S1.BMK1.07)</p> <div style="border: 1px solid black; padding: 5px;"> <p>a. Tentukan <i>Break Even Point</i> produk X dalam unit! b. Tentukan <i>Break Even Point</i> produk Y dalam unit! c. Tentukan <i>Break Even Point</i> perusahaan secara keseluruhan dalam rupiah!</p> </div>

what you wrote on your answer sheet?"

(W1.S1.BMK2.07)

S1: "I am confused how to distinguish between BEP rupiah and BEP unit"(W1.S1.BMK2.08)

P: "Okay then, please explain."(W1.S1.BMK2.09)

S1:

(W1.S1.BMK2.10)

P: "Why did not you answer number 2?"

(W1.S1.BMK2.11)

S1: "Because I focused on answering question number 1 too much, so I had no time to answer question number 2" (W1.S1.BMK2.12)

P: "Next, how did you (S1) feel when you answered the questions? Please tell me."(W1.S1.SO1.13)

S1: "I was confused once in solving question number 1, between BEP rupiah and BEP unit"(W1.S1.SO1.14)

P: "Okay, did you (S1) worry about your answer?" (W1.S1.SO2.15)

P: "The next question, supposed you understand the instructions in the questions. Now, do you (S1) understand what you wrote on your answer sheet?"(W2.S1.BMK2.08)

S1: "I understand."(W2.S1.BMK2.09)

P: "If you understand, please explain."(W2.S1.BMK2.10)

S1:

(W2.S1.BMK2.11)

P: "Next, how did you (S1) feel when you answered the questions?" (W2.S1.SO1.12)

S1: "I was a little bit confused about the formula" (W2.S1.SO1.14)

P: "Which formula?"(W2.S1.SO1.15)

S1: "BEP rupiah formula and BEP unit formula " (W2.S1.SO1.15)

P: "Okay, I see ..."(W2.S1.SO1.16)

P: "Next, after solving the questions, did you (S1) worry about your answers?"(W2.S1.SO2.17)

S1: "Yes, I worried about my answers?"(W2.S1.SO2.18)

P: "Why?"(W2.S1.SO2.19)

S1: "Because I doubted whether to use BEP rupiah formula or use BEP unit formula "(W2.S1.SO2.20)

The result of interview with male subject in the 1st test and in the 2nd test as the evidence of the measurement of the validity of the research data obtained from subject 1 was tested by using time triangulation, i.e. by finding the suitability of the data of subject 1 in video recording 1, test 1, and interview 1 with recording 2, test 2 and interview 2. Based on the data in table 4.1, it can be seen that the data of subject 1 on video recording 1 and video recording 2, test 1 and test 2, and interview 1 and interview 2 is suitable/ credible.

Therefore, the data can be said to be valid and can be analyzed further.





a. Subject 2 (female)

Based on the video of female subject on the first test (I) and the 2nd test, at first, the subject started to read calmly, she held the question sheet with the head ducked and the 2nd participant held the question sheet upwards with the back and head straight; there is no question about the clarity of the questions. Her hand began to write, which means that she

started trying to answer the questions of test with a calm body movement, no expression of restless face, her hand once stopped writing.

However, in answering each question, she seemed anxious.

Table 4 Validation of Video Recording in I-II Subject 2

RESUL TS	I Friday, February 12, 2016	II Wednesday, February 17, 2016	Note
			The subject turned her head to her left.
			Subject looked confused when solving the problems.

From the tables above, we can see students' attitude in solving questions about BEP, i.e. head turning left, relecting and

thinking for too long, and hand holding the head.

Table 5. Validation of Video Recording in I-II Subject 2

Recording of Interview	
I Friday, February 12, 2016	II Wednesday, February 17, 2016
P: "Please explain the instructions in question number 1 and in question number 2." (W1.S2.BMK1.04) S2: "For the instruction in question number 1" (W1.S2.BMK1.05) <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> a. Buatlah analisis <i>Break Even Point</i> dalam rupiah, unit, dan persentase dari kapasitas! b. Berapa penjualan yang harus dilakukan untuk memperoleh laba Rp. 3.000.000,-! c. Tentukan <i>Break Even Point</i> dalam rupiah jika biaya tetap turun Rp. 2.000.000,- </div> P: "For the instruction in question number 2?" (W1.S2.BMK1.06)	P: "Please explain the instructions in question number 1 and 2." (W2.S2.BMK1.04) S2: "The instruction in question number 1 is..." (W2.S2.BMK1.05) <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> a. Tentukan <i>Break Even Point</i> dalam rupiah! b. Tentukan <i>Break Even Point</i> dalam unit! c. Dengan anggapan biaya tetap naik sebesar Rp. 2.000.000,- dan biaya variabel naik sebesar Rp. 1.000.000,-. Berapa penjualan yang direalisasikan supaya perusahaan mendapat laba sebesar Rp. 10.000.000,-! </div> P: "For the instruction in question number 2?"(W2.S2.BMK1.06) S2: " For the instruction in question number 2..."(W2.S2.BMK1.07)

S2: "The instruction in question number 2" (W1.S2.BMK1.07)

- a. Tentukan Break Even Point perusahaan secara keseluruhan dalam Rupiah!
- b. Tentukan Break Even Point produk A dalam unit!
- c. Tentukan Break Even Point produk B dalam unit!

P: "For the next question, do you (S2) understand about what you wrote on your answer sheet?" (W1.S2.BMK2.08)

S2: "I understand" (W1.S2.BMK2.09)

P: "Okay, if you understand, please explain your answer to question number 1!" (W1.S2.BMK2.10)

S2:

1. BEP : PT VARI USAHA	
Penjualan	Rp 45.000.000
dikurangi biaya Variabel	
biaya variabel	Rp 27.000.000 -
	Rp 18.000.000
dikurangi biaya tetap	
biaya tetap	Rp 12.000.000 -
	Rp 6.000.000

(W1.S2.BMK2.11)

P: "Why did you (S2) only answer question point a?" (W1.S2.BMK2.12)

S2: "I calculated it too slow and made many mistakes, so I could not finish it" (W1.S2.BMK2.13)

P: "Then, now please explain BEP unit and BEP rupiah based on your answer." (W1.S2.BMK2.14)

S2:

a. $BEP_{unit} = \frac{1}{a \cdot c}$
$= \frac{1}{25 \cdot 6.000.000} = \frac{1}{1.350.000.000}$
$BEP_{rupiah} = \frac{45.000.000}{1 - \frac{27.000.000}{45.000.000}} = \frac{45.000.000}{1 - 0,6}$
$= \frac{45.000.000}{0,4} = 112.500.000$

(W1.S2.BMK2.15)

P: "Are you sure with this formula?" (W1.S2.BMK2.16)

S2: "I am not sure because I forgot the formula" (W1.S2.BMK2.17)

P: "For the next question, how did you (S2) feel when you answered this question? Tell me please!" (W1.S2.SO1.18)

S2: "I was a little bit blank, so I was a bit confused and could not solve the problem" (W1.S2.SO1.19)

- a. Tentukan Break Even Point produk X dalam unit!
- b. Tentukan Break Even Point produk Y dalam unit!
- c. Tentukan Break Even Point perusahaan secara keseluruhan dalam rupiah!

P: "After you(S2) understand about the instruction in the questions, do you (S2) understand about what you wrote you answer sheet?" (W2.S2.BMK2.08)

S2: "Yes, I do" (W2.S2.BMK2.09)

P: "If you understand, please explain what you(S2) wrote on your answer sheet" (W2.S2.BMK2.10)

S2:

1. Penjualan	Rp 60.000.000
dikurangi biaya variabel	
- biaya variabel	Rp 24.000.000 -
ditambah	
dikurangi biaya tetap	Rp 36.000.000
- biaya tetap	Rp 46.000.000 -
Total biaya	= 82.000.000
a. $BEP_{rupiah} = \frac{\text{Total biaya}}{1 - \frac{24}{60}} = \frac{82.000.000}{1 - 0,4} = \frac{82.000.000}{0,6} = 136.666.667$	
b. $BEP_{unit} = \frac{82.000.000}{1500} = 54.666,67$	

a. $BEP_{unit} = \frac{1}{a \cdot c}$

$= \frac{1}{25 \cdot 6.000.000} = \frac{1}{1.350.000.000}$

$BEP_{rupiah} = \frac{45.000.000}{1 - \frac{27.000.000}{45.000.000}} = \frac{45.000.000}{1 - 0,6} = \frac{45.000.000}{0,4} = 112.500.000$

(W2.S2.BMK2.11)

P: "Here, I have looked at your answer sheet. Why did you only answer question point a?" (W2.S2.BMK2.12)

S2: "Yes, I made many mistakes, so I repeated it for many times and could not finish it" (W2.S2.BMK2.13)

P: "Next, how did you (S2) feel when you answered this question? Tell me please." (W2.S2.SO1.14)

S2: "I was a little bit confused and blank when I solved this question" (W2.S2.SO1.15)

P: "After solving this problem, did you (S2) worried about your answer?" (W2.S2.SO2.16)

<p>P: "You could not solve the problem? Did you pass many questions?" (W1.S2.SO1.20) S2: "Yes, I did" (W1.S2.SO1.21)</p>	<p>S2: "Yes, I was worried about my answer" (W2.S2.SO2.17) P: "Did you worry that your friend assumes that you (S2) cannot solve this problem?" (W2.S2.SO3.18) S2: "Yes, I did because I am worried that my score is lower than his " (W2.S2.SO3.19) P: "Suppose you (S2) get a low score, how do you feel?" (W2.S2.SO3.20) S2: "How can I say,, <i>hehe</i>, it just doesn't feel right, <i>hehe</i>" (W2.S2.SO3.21)</p>
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Table 5 presents the results of interview with the 1st subject, shows that the subject understood about the questions clearly, only answered question number 1 point a; there are many unanswered questions. The 2nd subject has clearly understood the problem, only answering question number 1 point a.

The validity of the research data obtained from subject 1 was tested by using time triangulation, i.e. by finding the suitability of the data of subject 1 in video 1, test 1 and interview 1 with video 2, test 2 and interview 2. Based on the data in table 4.2, it can be seen that subject 1 on video 1 and video 2, test 1 and test 2, and interview 1 and interview 2 are congruent. Therefore, the data can be said to be valid and can be analyzed further.

Data Analysis of Research Findings

The data to be analyzed for subject 1 and subject 2 is data from the results of video 1, test 1, and interview 1. From the data analysis of research result, it is found that subject 1 had business math anxiety based on the following indicators: (a) *Business mathematics knowledge/understanding*. Based on the results of written tests and interview, the subject misunderstood about the difference between formula of BEP rupiah and BEP unit on question number 1; (b) *Somatic*. The change in subject's body can be seen when the subject rushed at the last minute because the subject had not solved the question number 2. It means that the subject meets indicator of somatic, which is on physical condition; (c) *Cognitive*. The subject forgot the difference between formula BEP rupiah and formula BEP unit. This occurred when the subject answered question number 1. This means that the subject meets the cognitive indicator (the state of memory or the state of mind stability); (d) *Attitude*. The subject was confident to solve the

problem. This indicates that the subject does not meet the indicator of attitude, which is on the condition of behavior or personality conditions.

Subject 2 had business math anxiety based on the following indicators: (a) *Business Mathematics Knowledge/ Understanding*. The subject misunderstood the basic knowledge and formula BEP. It shows that the subject meets indicator of business mathematics knowledge/ understanding (condition of basic understanding of knowledge and calculation); (b) *Somatic*. The subject was worried about getting a bad score and giving wrong subject answer, which led the subject to turn. This is shown from the video recording of S2.HRV1.04, the subject turned right. This means that the subject meets indicator of somatic (physical comfort); (c) *Cognitive*. The subject forgot BEP formula on question number 1, which is shown from video recording code S2.HRV1.05. The subject cannot concentrate and was confused when solving the problem. This indicates that the subject meets the cognitive indicator (state of concentration, memory, and stability of mind); (d) *Attitude*. When the subject had solved the problems, she was not confident to solve the problems. This lack of self-confidence was indicated by the statement that the subject was not sure of her answer. This shows that the subject meets attitude indicator (state of the personality that shows no confident).

The results of the analysis are in accordance with the opinion that the cause of business mathematics anxiety can be classified into three categories as follows (Peker, 2009): (a) *Personality factor (Psychological or emotional)*. For example, students' fear of their own ability (self-efficacy believe), low self-esteem that leads to low student expectancy, low student self-motivation, and emotional

history leading to a trauma; (b) *Environmental or social factors*. It includes negative experiences in the classroom, for example tense learning. Due to the teaching method and model, students are used to memorizing formulas, long and monotonous calculations, as well as manipulating number (Idris, 2006). Another factor is family, especially the parents. Mostly, they forced their children to be good at business mathematics because it is very prestigious; (c) *Intellectual factor*. It consists of cognitive influences, which is aimed at the talent and level of intelligence possessed by the students. High level of emotionality can be reduced in solving business math problems if individuals maintain high self-esteem about the capability of the individual (Peker, 2009). Thus, it is influenced by emotional, environmental, and intellectual factor. Educators can play an important role in fostering a good teaching and learning environment by presenting topics in an activity-oriented way to reduce or prevent math anxiety; for example, concepts can be taught through mathematical modeling related to daily life activities, forming a mathematics club to build interaction between students on mathematical phenomena, audio-visual aids (Ranjan & Gunendra Chandra, 2013). Similarly, the research which was conducted by Saeed, Hassan, & Saeed (2012) found that cooperative learning can make better mathematical performance of students. The results indicate that contextual learning can control students' math anxiety and also explain a significant negative relationship between anxiety and mathematical performance.

It is proven that both subject 1 and subject 2 had anxiety in solving BEP problems. This is in contrast to the mathematics learning outcomes obtained from the results of the study (Charles Ogan, 2015); female students have better learning attitude and higher GPA in mathematics than male students.

CONCLUSION AND SUGGESTION

Based on the results of research and associated with research questions, from the research on student anxiety in solving break-even point problem based on gender, it can be drawn conclusions as follows: Subject 1 meets the indicator of business mathematics knowledge/ understanding, somatic, and cognitive, but he does not meet indicator of

attitude because the subject shows confidence. Meanwhile, subject 2 meets all indicators namely, business mathematics knowledge/ understanding, somatic, cognitive and attitude.

Based on the conclusion above, Educational Institution, it is expected to hold a program to overcome the anxiety of students in solving problems, by improving the quality of education. In addition, it is also expected to improve the quality of lecturers in educating, in order to reduce anxiety that occurs in the students. Furthermore, the next researcher should improve the weakness in this research (camera quality and flexibility in capturing objects on one of the research subjects, especially camera setting). It is still necessary to conduct further research about measuring the entrepreneurial spirit and soul of students in the practice of introduction to business.

REFERENCES

- Alnasser, N., Shaban, S. O., ZiadAl-Zubi, Z., & AL-Zaytoonah. (2014). The Effect of Using Break-Even-Point in Planning, Controlling, and Decision Making in the Industrial Jordanian Companies. *International Journal of Academic Research in Business and Social Sciences*, 4.
- Aswal, P., Kumar, M., & Gupta, A. (2014). A Study on the Organisational Output by Concluding Break Even Point through the Application of Matlab Simulink Method. *International Journal Management Business*, 4(1), 35–41.
- Bogdan, R. C. & Biklen, S. K. (1998). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston: Alyyn & Bacon.
- Charles Ogan, G. (2015). Gender Influence on Study Habits of Mathematics Students' Achievement. *International Journal of Academic Research and Reflection*, 3, 24–28.
- Cooke, A. et al. (2011). Situational Effect of Mathematics Anxiety in Pre-service Teacher Education. In *Proceedings AARE International Research in Education Conference*. Melbourne.

- Eden, C., Heine, A., & Jacobs, A. M. (2013). Mathematics Anxiety and Its Development in the Course of Formal Schooling: A Review. *Psychology, 4, 6A2, 27–35*.
- Erdogan, A., et al. (2012). Prediction of High School Students' Mathematics Anxiety by Their Achievement Motivation and Social Comparison. *Elementary Education Online, 10(2), 646–652*.
- Ford, T. E., Ford, B. L., Boxer, C. F., & Armstrong, J. (2012). Effect of Humor on State Anxiety and Math Performance. *Humor, 25, 59–74*.
- Idris, N. (2006). Exploring the Effects of Ti-84 Plus on Achievement and Anxiety in Mathematics. *Eurasia Journal of Mathematics, Science and Technology Education, 2(3), 66–78*.
- Jabor, K. M., Machtmes, K., Kungu, K., Buntat, Y., & Nordin, M. S. (2011). The Influence of Age and Gender on the Students' Achievement in Mathematics. In *International Conference on Social Science and Humanity IPEDR vol.5*. Singapore: IACSIT Press.
- Khatoon, T., & Mahmood, S. (2010). Mathematics Anxiety Among Asecondary School Students in India and Its Relationship to Achievement in Mathematics. *European Journal of Social Science, 16(1), 75–86*.
- Peker, M. (2009). Pre-service Teachers' Teaching Anxiety about Mathematics and Their Learning Style. *Eurasia Journal of Mathematics, Science, & Technology Education, 5(4), 335–345*.
- Ranjan, D., & Gunendra Chandra, D. (2013). Math Anxiety: The Poor Problem Solving Factor in School Mathematics. *International Journal of Scientific and Research Publications, 3(4 April)*.
- Saeed, D., Hassan, A., & Saeed, D. (2012). Experimental Research about Effect of Mathematics Anxiety, Working Memory Capacity on Students' Mathematical Performance with Three Different Types of Learning Methodsno Title. *ARPJ Journal of Science and Technology, 2*.
- Sarah, S. W., Maria, B., Hitha, A., Vanessa, M., & Vinod, M. (2012). Math Anxiety in Second and Third Graders and Its Relation to Mathematics Achievement. *Frontiers in PSYCHOLOGY, 3*.
- Suárez-Pellicioni, M., Maria Isabel, N.-P., & Àngels, C. (2016). Math Anxiety: A Review of Its Cognitive Consequences, Psychophysiological Correlates, and Brain Bases. *Cogn Affect Behav Neurosci, 16, 3–22*.
- Sugihastuti, & Sastriyani, S. H. (2007). *Glosarium Seks dan Gender*. Yogyakarta: Carasvati Books.