Model of the Increase of Accurate Computer Learning Achievement on Islamic Banking and Accounting Students Program

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Abstract
The result of preliminary study in SMK N 1 Kudus, indicates that there is 35.26% of twelfth graders of Islamic Banking and Accounting students who have not completed final exam of the semester. In addition, the results of the students final exam of the semester decreased by 16.67% when compared with the results of midterms. The purpose of this study is to determine the effect of computer anxiety, computer knowledge, computer attitude, and self efficacy in improving Accurate computer learning achievement. This study is a quantitative study. The population and sample of the study are 156 twelfth graders of Islamic Banking and Accounting students program SMK N 1 Kudus. The methods used to collect data were documentation and questionnaire. Data in this research is analyzed using descriptive statistics, correlation analysis, and path analysis with AMOS 22. The result showed that computer knowledge and self efficacy have no effect on computer Accurate learning achievement. Computer anxiety has negative effect on self efficacy 34.6%. While the computer attitude has positive effect on self efficacy 30.1%. However, computer knowledge has no effect on self efficacy. Computer anxiety has negative effect on computer knowledge 32.6% and computer attitude 30.2%. Based on the results of the study it can be concluded that self efficacy is influenced by computer anxiety and computer attitude. Computer anxiety have negative effect on computer knowledge and computer attitude. Suggestion given in this research is the students can increase computer anticipation in order to reduce the level of computer anxiety by improving practice both at school and training institute.

Keywords: Computer Anxiety, Computer Knowledge, Attitude Computer, Self Efficacy, Accurate Computer Learning Achievement.
1. Introduction

The ability to interact effectively with information technology is needed in order to succeed in the world of education and work environment [20]. So that education providers need to develop a special program of computer education and training. Computer knowledge will be an asset in the competitive world of work increasingly competitive [10]. Vocational schools play an important role in providing qualified personnel are most needed in the industrial and services sectors. Therefore, the high quality of education in computer and vocational education becomes very important requirement.

Accurate computer learning achievement of class XII students of Islamic Banking and Accounting major of SMK N 1 Kudus decreased. The level of completeness in the midterm test of Accurate computer subject is 81.41%, but the level of completeness in final exam result is still low that is 64.74%. The total is less than the limit of classical completeness, that is 75% [28]. The result of the students’ final exam decreased by 16.67% when compared with the result of midterm. Therefore, it is necessary to study the factors that can improve Accurate computer learning achievement.

Previous studies have found that computer knowledge plays an important role in the learning process of accounting computer. Accounting computer subjects integrating student’s knowledge of accounting and expertise in using the computer, so the use of computer accounting can not be separated from the knowledge component of computing [32]. Besides cognitive factors also have an important role in learning, especially related to students’ beliefs on his ability to perform satisfactory action or called self-efficacy [3]. Individuals with high self-efficacy tend to be a lot of learning and achievement than those that self-efficacy is low. Previous research found that self-efficacy has a positive effect on learning outcomes accounting computer [23]. Accurate computer so that the learning achievement of the students can be improved by increasing self-efficacy.

Computer anxiety impact on the behavior of students in computer Accurate learning. The more anxious individuals to computer technology will lead to avoidance or denial of the individual in the study and use computers [7]. Previous research has found that anxiety become predictors of change in computer knowledge. The high computer cause low computer anxiety knoweldge [16].

Students’ attitudes impact on the computer self-efficacy level students. Students who have a positive attitude will bring a sense of confidence and will do anything that his wishes come true and will not easily give up [19], Computer attitude contributes
positively to self efficacy [9], Individuals with low computer anxiety has a positive attitude (positive attitude) to the computer [13, 25]. The purpose of this study is to determine the effect of computer anxiety, computer knowledge, computer attitude, and self efficacy in improving computer Accurate learning achievement.

2. Literature Review

Social cognitive theory states that social factors and cognitive and behavioral, play an important role in learning [6]. Cognitive factors which play a crucial role in learning is mainly associated with the belief that he is able or unable to perform a satisfactory action [3] or the so-called self-efficacy [5]. Self-efficacy can be obtained, modified, enhanced or reduced through one or a combination of four sources that experience to master something (mastery experience), social modeling (vicarious experience), social persuasion, as well as physical and emotional conditions [6]. Experience to master something in the past, a great increase efficacy expectations [3]. Meanwhile, the emotion of anxiety acute, or high stress levels, is likely to affect the efficacy of low expectations [11].

Theory of Planned Behavior states that there are three dimensions that determines intent and behavior that attitude toward the behavior, subjective norm, and perceived behavioral control [1]. Attitude toward behavior defined as positive and negative feelings if he had to perform a behavior [1]. Perceived ease indicate the level of trust people easily perform a behavior [26]. Students will learn computer if it has a good control behavior of the computer, so that students will be motivated and try to be successful and be able to overcome difficulties.

2.1. Self efficacy

Self-efficacy is an individual’s belief that he was able to do something in a certain situation to succeed [5]. People are more likely to engage in certain behaviors when they are sure that they will be able to run it successfully behavior that is when they have a high self-efficacy [5]. Individuals with high self-efficacy will work hard and endure the task to completion [3]. More persistent and not easily give up in the face of challenges [21]. Self-efficacy can be obtained, modified, enhanced or reduced through one or a combination of four sources that experience to master something (mastery experience), social modeling (vicarious experience), social persuasion, as well as physical and emotional conditions [6]. Experience to master something in the past, a great
increase efficacy expectations [3]. Meanwhile, the emotion of anxiety acute, or high stress levels, is likely to affect the efficacy of low expectations [11].

2.2. Computer anxiety

Computer anxiety is a person’s tendency to feel anxiety, worry, and fear in using the computer in the present and in the future [14]. The more anxious individuals to computer technology will lead to avoidance or denial of the individual in the study and use computers [7]. Individuals with levels of anxiety (anxiety) is high, have a low self efficacy [5].

2.3. Computer knowledge

Computer knowledge means the student familiarity with the basic components of a computer, computing capabilities and the use of computers in society, and familiarity with programming languages and computer application functions [4]. Someone was afraid to computers because he was not proficient in computer technology so that many have not been able to get the benefits of the presence of computer technology [26].

2.4. Computer attitude

Computer attitude is the human mental condition that affects human choices in the act or behave in computers and computer-related tasks [7]. The attitude of individual users of the computer have an influence on individual skills or computer users and the success of an information system [18]. The higher the positive attitude of the students will be the higher the self-efficacy of students, while students who act negatively will easily give in addressing problems that will be encountered [19].

3. Hypothesis Development

Accurate computer subjects combines the student’s knowledge of accounting and expertise in using computers. So that any accounting computer use can not be separated from the components of the computer knowledge. Computer knowledge is one’s knowledge of computer components and the ability to operate it as well as the completion of tasks using a computer. According to Aziz and Hassan (2014), in using
the computer and run a specific computer applications require some basic knowledge and skills in the context of the completion of certain tasks.

Social cognitive theory explains that social factors and cognitive, cognitive factor that plays an important role in learning is mainly associated with the belief that he is able or unable to perform a satisfactory action [3] or the so-called self-efficacy [5]. According to Ormrod (2012) people with high self-efficacy tend to be more accomplished than those who self-efficacy is low. Students with high self-efficacy that can achieve high academic achievement because they are involved in cognitive processes that improve learning. This can occur because the level of self-efficacy students can determine how much confidence in completing the tasks. Thus, the higher the level of self-efficacy students then student achievement will increase.

\[ H_{a1} \]: computer knowledge has positive effect on Accurate computer learning achievement.

\[ H_{a2} \]: self efficacy positive has effect on Accurate computer learning achievement.

Self-efficacy is an individual’s belief his ability to implement measures to achieve a particular result. Self-efficacy can be obtained, modified, enhanced or reduced through one or a combination of four sources that experience to master something (mastery experience), social modeling (vicarious experience), social persuasion, as well as physical and emotional conditions [6].

Experience to master something in the past, a great increase efficacy expectations [3]. It was pointed out that the experience of mastering something can improve students’ self-efficacy. Students experience in this case is the students’ knowledge of computers. Students who already have knowledge of computing will be more confident about her ability to complete a task. So that students with good computer knowledge it has confidence that he was able to finish a job well done.

Emotions such as acute anxiety, or high stress levels, is likely to affect the efficacy of low expectations [11]. According to Bandura (1977) individuals with levels of anxiety is high, have a low self-efficacy. Strong emotions, acute anxiety or high stress levels, will affect the efficacy of low expectations. Students who worried while using a computer cause he is not confident in its ability to accomplish certain tasks. So that students with high anxiety computer will have a low self-efficacy.

Theory of planned behavior explains that attitudes toward the behavior, subjective norms, and perceived behavioral control influences intention or desire [2].
towards computer technology shows how much a person feels that computer technology is useful or not. Students who have a positive attitude will bring a sense of confidence and will do anything that his wishes come true and will not easily give up [19]. This indicates that the positive view of the computer will increase self-efficacy. Attitudes towards computer users have some impact on the ability of self-confidence and performance of the individual concerned Heinssen et al., (1987).

\[ H_a_3: \text{ computer knowledge has a positive effect on self-efficacy.} \]

\[ H_a_4: \text{ computer anxiety negatively affect self-efficacy.} \]

\[ H_a_5: \text{ computer attitude has positive effect on self-efficacy.} \]

Computer anxiety is a hard feeling, worry, or fear of computer use in the present or in the future. The more anxious individuals to computer technology will lead to avoidance or denial of the individual in the study and use computers [14]. As a result, individuals who have no concern about computers tend to have low computer knowledge. This shows the negative influence of computer anxiety towards computer knowledge. This means that the higher the computer knowledge of computer anxiety it would be lower. Conversely, the lower the computer knowledge of computer anxiety is increasing.

Computer attitude an assessment of one’s attitude or computer based on the pleasure or displeasure of the computer. According to Loyd & Gressard (1984) stated that attitudes toward computers affected by three factors, consist of liking, computer confidence, and freedom from anxiety. Individuals with low computer anxiety has a positive attitude to the computer [13, 25]. Computer anxiety is low will have an impact on an optimistic attitude towards computers. Conversely, individuals with high anxiety computer has a negative attitude toward computers.

\[ H_a_6: \text{ computer anxiety negatively affect computer knowledge.} \]

\[ H_a_7: \text{ computer anxiety negatively affect the computer attitude.} \]

4. Method

This study is a quantitative research study and hypothesis testing design. The population and sample of the study are 156 twelfth graders of Islamic Banking and Accounting students program SMK N 1 Kudus academic year 2017/2018. This study consisted of 1 exogenous and endogenous variables 4. Exogenous variables in this study is that
computer anxiety. While endogenous variables in this study are computer knowledge, computer attitude, self-efficacy, and learning achievement Accurate computer. The methods used in data collection is the documentation and questionnaires. Methods of data analysis consisted of descriptive analysis, product moment correlation analysis (Pearson), and path analysis.

5. Results and Discussion

5.1. Result

5.1.1. Descriptive analysis

The result of descriptive analysis showed that from 156 students, the lowest score of Accurate computer is 48 and the highest is 100 with the average is 84.42. Based on the result, the percentage as much as 62.83% of the students have completed the Accurate computer subject and the remaining 37.18%, are not yet completed. The total of 32.1% of the students are experienced enough computer anxiety. The level of computer anxiety of 60.3% of the students are low. While the remaining 7.7% of students have very low computer anxiety level.

Students have had good understanding of the computer. On average, students understand all of the hardware, software, and computer program processes. In addition, computer attitude of 78.2% of the students is high. Students have high computer optimism followed by low computer pessimism. The level of self-efficacy of students is high. The total of 60.9% have high self-efficacy, and 32.7% of students have enough self efficacy. Table 1 below shows the result of the descriptive analysis of the variables in this study.

<table>
<thead>
<tr>
<th>variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate Computer</td>
<td>48</td>
<td>100</td>
<td>84.42</td>
<td>16.741</td>
</tr>
<tr>
<td>Learning Achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Anxiety</td>
<td>6</td>
<td>19</td>
<td>14.19</td>
<td>2.414</td>
</tr>
<tr>
<td>Computer Knowledge</td>
<td>52</td>
<td>100</td>
<td>81.71</td>
<td>9.436</td>
</tr>
<tr>
<td>Computer Attitude</td>
<td>24</td>
<td>40</td>
<td>32.79</td>
<td>3.342</td>
</tr>
<tr>
<td>Self Efficacy</td>
<td>26</td>
<td>44</td>
<td>32.62</td>
<td>3.775</td>
</tr>
</tbody>
</table>

Table 1: Descriptive Analysis.
5.1.2. Correlation

Correlation analysis showed that there is no correlation between computer knowledge and the learning achievement of Accurate computer (0.098, p > 0.05). Self-efficacy is positively correlated with students’ achievement of Accurate computer (0.146, p < 0.01). There is positive correlation between computer knowledge and self-efficacy (0.220, p < 0.01). Computer attitude positively correlated with self-efficacy (0.389, p < 0.01). Computer anxiety negatively correlated with computer knowledge (-0.283, p < 0.01), self-efficacy (-0.421, p < 0.01), and computer attitude (-0.311, p < 0.01). The results of the correlation analysis between variables are shown in Table 3 below.

**Table 2: Correlation Matrix.**

<table>
<thead>
<tr>
<th></th>
<th>Computer Anxiety</th>
<th>Computer Knowledge</th>
<th>Computer Attitude</th>
<th>Self Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Anxiety</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Knowledge</td>
<td>-0.283 **</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Attitude</td>
<td>-0.311 **</td>
<td>-0.220 **</td>
<td>0.389 **</td>
<td>1</td>
</tr>
<tr>
<td>Self Efficacy</td>
<td>-0.421 **</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accurate Computer Learning Achievement</td>
<td>0.098</td>
<td>0.146 *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.05 level (one-tailed).**

**. Correlation is significant at the 0.01 level (one-tailed).**

5.1.3. Path analysis

The results of path analysis showed that Accurate computer learning achievement is not influenced by computer knowledge (0.070, P > 0.05) and self efficacy (0.131, P > 0.05). Self-efficacy is influenced by computer attitude and computer anxiety, while computer knowledge proved to be not significantly affect self-efficacy. Computer anxiety negatively affect self-efficacy (-0.316, P < 0.001). Computer attitude positively influenced self-efficacy (0.276, < 0.001). Meanwhile, computer knowledge did not affect self-efficacy (0.072, P > 0.05). Path analysis also proved that computer anxiety negatively affects computer knowledge (-0.283, P < 0.001) and computer attitude (-0.311, P < 0.001).

5.1.4. Goodness of fit

Goodness of fit test in this research used CMIN, CMIN/ DF, GFI, AGFI, TLI, CFI and RMSEA [33]. Test CMIN index is 5.103 (p = 0.174). Probability with a value of 0.164 > 0.05, means
Table 3: Summary Path Analysis.

<table>
<thead>
<tr>
<th>variables</th>
<th>estimate</th>
<th>P</th>
<th>Ket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning achievement &lt;- computer Knowledge</td>
<td>0.070</td>
<td>0.394</td>
<td>Rejected</td>
</tr>
<tr>
<td>Learning achievement &lt;- self Efficacy</td>
<td>0.131</td>
<td>0.110</td>
<td>Rejected</td>
</tr>
<tr>
<td>self Efficacy &lt;- computer Knowledge</td>
<td>0.072</td>
<td>0.329</td>
<td>Rejected</td>
</tr>
<tr>
<td>Self_Efficacy &lt;- Computer_Angiety</td>
<td>-0.316</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Self_Efficacy &lt;- Computer_Attitude</td>
<td>0.276</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Computer_Knowledge &lt;- Computer_Angiety</td>
<td>-0.283</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>computer Attitude &lt;- computer Anxiety</td>
<td>-0.311</td>
<td>***</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

that the research model is declared as fit. CMIN / DF of 1.701 ≤ 2.00 means that the research model is declared as fit. GFI of 0.987 ≥ 0.90, so that the research model is declared as fit. AGFI of 0.934 ≥ 0.90, which means that the model is declared as fit. TLI is 0.902 ≥ 0.90, the model can be declared as fit, CFI.971 ≥ 0.90 means that the model can be declared as fit. RMSEA of 0.068 ≤ 0.08 means that the model can be declared as fit. Therefore, it can be concluded that significantly, there are no differences between the theoretical models developed by the research data.

Table 4: Summary of Goodness of Fit Test.

<table>
<thead>
<tr>
<th>No.</th>
<th>Goodness of Fit Index</th>
<th>Cut-off Value</th>
<th>Results Analysis</th>
<th>Evaluation Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CMIN</td>
<td>Small</td>
<td>5.103 (p = 0.164)</td>
<td>Fit</td>
</tr>
<tr>
<td>2</td>
<td>CMIN / DF</td>
<td>≤ 2.0</td>
<td>1.701</td>
<td>Fit</td>
</tr>
<tr>
<td>3</td>
<td>GFI</td>
<td>≥ 0.90</td>
<td>0.987</td>
<td>Fit</td>
</tr>
<tr>
<td>4</td>
<td>AGFI</td>
<td>≥ 0.90</td>
<td>0.934</td>
<td>Fit</td>
</tr>
<tr>
<td>5</td>
<td>TLI</td>
<td>≥ 0.90</td>
<td>0.902</td>
<td>Fit</td>
</tr>
<tr>
<td>6</td>
<td>CFI</td>
<td>≥ 0.90</td>
<td>0.971</td>
<td>Fit</td>
</tr>
<tr>
<td>7</td>
<td>RMSEA</td>
<td>≤ 0.08</td>
<td>0.068</td>
<td>Fit</td>
</tr>
</tbody>
</table>

5.2. Discussion

Computer knowledge and self efficacy has no effect on Accurate computer learning achievement. Aziz and Hassan (2014) states that in using the computer and run a specific computer applications requires some basic knowledge and skills in order to complete certain tasks. Computer knowledge in this research is the students’ knowledge of hardware, software, and computer program processes in general. So the level of computer knowledge of students do not have significant influence on students’ learning achievement. Similarly, self-efficacy in the study refers to the students’ level of confidence in their ability to complete tasks related to computer in general. So
the level of self-efficacy in computing in general do not have a significant impact for students to attain Accurate computer learning achievement.

The level of students’ understanding toward computer does not influence the students’ confidence for their ability to complete the tasks associated with Accurate computer. Not only the knowledge related to computer, but also the basic knowledge of accounting. Accurate computer subject cannot be separated from the basic knowledge of accounting. Therefore, the basic knowledge of accounting has become important factor in influencing the learning process of Accurate computer. Students will have high self-efficacy if they have some knowledge of basic accounting. The results of this study are supported by research of Karsten & Roth (1998) which found that computer knowledge has no effect on self-efficacy.

Self-efficacy of the students can be improved by reducing the level of anxiety when using the computer. This result is in accordance with social cognitive theory [6] that self-efficacy can be caused by a strong emotional state, fear, anxiety, and stress. Individual with high level of anxiety, have low self-efficacy. This study reinforces the findings of previous studies showing that computer anxiety negatively affects self-efficacy [22, 27].

Individual who have high control perception will be continually motivated and try to be successful because he is confident with the resources and opportunities, difficulties faced can be solved [2]. The result of this study is consistent with previous studies that computer attitude positively influences self-efficacy [9, 30].

Computer knowledge of students can be improved by reducing anxiety in using computer. A good anticipation will increase a person’s ability to understand the computer by way of learning that is easy to understand (Saade and Kira, 2009). So that the students, who are able to cope with anxiety while using computer, can have better computer knowledge. The result is in accordance with previous studies that found computer anxiety negatively affects on computer knowledge [16, 29].

Anxiety when using the computer can cause negative attitudes towards computer. Students can feel the benefits of computer if they reduce the level of anxiety in using computer. This research is in accordance with the research by Cazan & Cocorad (2016), computer anxiety is a strong predictor of negative attitude. The result of this study is consistent with previous studies that computer anxiety negatively influences computer attitude [17, 31].
6. Conclusion

Accurate computer learning achievement of students is classified as good. Students have low computer anxiety, good computer knowledge, positive attitudes toward computer and followed by high self-efficacy. Computer knowledge and self-efficacy have no effect on Accurate computer learning achievement. Self-efficacy is influenced by computer anxiety and computer attitude. Computer anxiety influences significantly and negatively toward self-efficacy. Similarly, computer attitude is proved to influence positively and significantly toward self-efficacy. Meanwhile, computer knowledge has no effect on self-efficacy.

Computer anxiety is proved to influence significantly and negatively toward computer knowledge and computer attitude. The total of 32.1% of students experienced enough computer anxiety. Therefore, students can increase anticipation in order to reduce the level of computer anxiety by increasing computing exercise in schools, training institutes, and with the help of peers.

References


