Cognitive Assessment in Learning Midwife Care (ASKEB I) by Midwifery Students of STIKES Maranatha Kupang

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Abstract

Cognitive Assessment is an assessment of learning efforts based on the results of one’s comprehension. One of the factors that affect the result of one’s learning is the media and interest. The objective of this study is to find out the effects of presentation slide, demonstration, video and interest of learning ASKEB I. They affect toward the Cognitive Assessment by Midwifery students semester IV in STIKES Maranatha Kupang, 2016. This study is using cross sectional method with quantitative approach. 120 respondents taken using total sampling method. Analysis method applied in this study is Structural Equation Modelling (SEM) method using SmartPLS 2.0 dan SPSS 18. The results of hypothesis test show variables that directly affect the cognitive assessment. (42.47% towards the learning media and 28.68% towards the learning interest). On the other hand, there is 4.05% variable found, affecting the learning media in cognitive assessment via learning interest. The Q-Square test results showing the analysis model conducted in this study is able to explain 87.48% of the phenomenon researched. The 12.51% rest is the factors that are not taken in this research. This is showing that there is correlation between learning media and learning interest toward cognitive assessment. It is expected that all the parties increase the learning interest and update more variable learning media to get good achievement.

Keywords: cognitive, interest of learning, learning media

Introduction

Human resources determine a country’s welfare and progress. Human Development Report (HDR) 1 released by The United Nations Development Programme (UNDP) 2011 shows that Indonesia is in rank 124 from 187 countries in the world. This position is ranked 16 below the previous year rank (rank 108 in 2010).2 Indonesia keeps on working to improve the quality of Human Resources. Education is one of the things concerned. Education has a great influence in every aspect of life. By improving the quality of education, it is expected that Indonesia is able to increase the people’s quality of life and welfare. A good result of education can be achieved by upgrading all the aspects involved in the educational process covering facilities and infrastructures, teachers, students, methods and learning media. All the components above work together in achieving the expected result.3

The Associate Degree of Midwifery (Ahli Madya/A.Md) is a decree of a person...
who has required competence as a professional midwife, working independently with good self-development and medical ethics. A student’s report of study is one of the factors to determine whether a student succeeds or not in the whole educational process. To achieve a good result, one should learn how to grow independence and interest effectively and efficiently.

Learning process is a communication process. There are three components involved in communication; sender/encoder (teacher/lecturer), recipient/decoder (student) and message (in this case, subject). Somehow communication failed in this process. To get the students to accept and understand the knowledge given, the teacher should know how to get them intrigued to the subject. Interest means to attract to an object unforcedly. A person is showing their interest by participating in an activity, for example. A student who has an interest to a specific subject tends to give more attention to it and makes the learning process easier. However, interest is not enough. It will fade if it is not supported by good learning media. Learning media is everything that can be used to deliver message and information in the teaching and learning process to get the student’s attention and interest. Media used in this study are presentation slide, demonstration and video/short movie. These are the things that are commonly used as learning media.

Based on the research by Erna Rochayati in her essay entitled ‘Hubungan Penggunaan Media Pembelajaran dengan Minat Belajar Asuhan Kebidanan I di STIKIM Jakarta Tahun 2015’ (The Correlation Between Type of learning media and Student’s Learning Interest in STIKIM Jakarta Year 2015) shows different results by different media applied. The result of video as the learning media to the interest of learning ASKEB I reaches p 0.001, presentation slide (power point) p 0.003 and model (demonstration) p 0.007. These results show interesting correlation value of using different media to gain student’s interest in learning ASKEB I.

A journal entitled ‘Pengaruh Minat Belajar Siswa dan Media Pembelajaran terhadap Hasil Belajar Mata Pelajaran Teknologi Informasi’ (The Effects of Student’s Learning Interest and learning media to Student’s ICT Subject Report) also shows that there is correlation between student’s learning interest and learning media as stated on their ICT Subject Report. Moreover the result of R square value 0.235 shows that 23.5% study result variable can be explained by student’s learning interest and learning media.

Based on this research it is needed to grow the interest of learning by the students who study ASKEB I, considering this subject talks about pregnancy, a basic study in Midwifery. Interest and comprehension are needed in this class since they will meet advance ASKEB subject in the next class. Preliminary studies held in STIKES Maranatha Kupang proves that the result of the study by the students is less satisfactory. Furthermore, video as learning media is rarely used. Therefore, a change should be made especially in learning process. The objective of this study is to find out the effect of slide presentation, demonstration, video and student’s interest of learning to cognitive assessment in studying ASKEB I by the students of Midwifery Semester IV in STIKES Maranatha Kupang 2016.
**Method**

This is an analytical study with quantitative approach and cross sectional design\(^\text{13}\), conducted in STIKES Maranatha Kupang in July 2016, involving 120 respondents. Sample collecting technique conducted is non probability (nonrandom), total sampling, where the respondents are the total population (120 people).\(^\text{14}\)

Assessment method uses both exogen and endogen variables. Used in this research is interval scale and semantic differential technique in scale point 5 where the positive behavior is rated highest whereas the negative behavior is the lowest.\(^\text{15}\) Data collection is held after the research gets the permission from the place where the research is conducted. This research applied instrument with questioner method.\(^\text{16}\) The questions listed in the questioner is a development result of the effects between learning method and student’s learning interest toward cognitive assessment in learning ASKEB I. each variable contains 15 questions.

There are 3 data analysis methods used. There are univariate, bivariate with \textit{chi} square and multivariate with SmartPLS. Data processing is conducted in 4 stages: editing, coding, entry and cleaning. SPSS 18 is used for variable descriptive statistic data processing. Data presentation is performed narratively (sentence), tabular, graphic and picture.

**Results**

Univariate assessment results show the answers from 120 respondents about the variables of learning media, majority being in range 72-75 (27.5%). The interest of students to learn is in range 70-72 (27.5%) whereas the result of \textit{chi} square shows no relation between variable research of learning media (student interest and cognitive assessment toward the character of the respondents). It is shown by p value > 0.05.

After the frequency and respondent profile is taken, data processing is held using SmartPLS 2.0. [Structural Equation Modelling (SEM)]. This program contains statistic techniques that allow the calibration of a series of correlation simultaneously. These relations are built between one or several exogen variables. Some of Confirmatory Factor Analysis tests with latent variables are as follows.

![Figure 1. PLS Output (Loading Factors)](image)

Figure 1 is showing the value of loading factors fulfill the requirement, that is bigger than 0.5. A reflective indicator is valid if it has loading factor value above
0.5 towards the aiming construct based on its substantive content considering weight significance (t=1.96). Evaluation of the outer model consists of convergent validity (loading factor) value, discriminant validity from cross loading and the AVE root. Reliability is taken from composite reliability and cronbach alpha.

Based on the data analysis, it is seen that the construct used in making a research model in the analysis of confirmatory factors meets the criteria of ‘goodness of fit’. Probability value in this analysis is showing 0.5 significance value. From the data processing above it is shown that every indicator or dimension that forms latent variable presents high loading factor where each indicator is bigger than 0.5. Therefore, indicator on each variable is valid.

The evaluation of assessment model with Square root of average variance extracted is to compare the value of AVE root with the correlations among the constructs. The value of AVE for all constructs is bigger than 0.5. Therefore, it is concluded that the evaluation of model assessment has sufficient discriminant validity. The value of cronbach alpha for all the variables is reliable since the composite reliability value is above 0.60. Reliability test is reinforced with cronbach alpha value where the output of SmartPLS shows every construct has value above 0.60. Therefore, every construct that is estimated fulfills the requirement of a reliability construct. For the result of ‘goodness of fit’ can be seen on the table below.

Table 1. GOF Value of Outer Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
<th>Composite Reliability</th>
<th>Cronbach’s Alpha</th>
<th>R-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning media</td>
<td>0.679872</td>
<td>0.863875</td>
<td>0.766107</td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>0.715207</td>
<td>0.882530</td>
<td>0.801238</td>
<td>0.565822</td>
</tr>
<tr>
<td>Cognitive Assessment</td>
<td>1.000000</td>
<td>1.000000</td>
<td>1.000000</td>
<td>0.711675</td>
</tr>
<tr>
<td>ASKEB I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the amount of T-statistic value in this study, it is showing that the T-statistic value > 1.96 therefore the indicator block has positive and significance effects to reflect its variables. The result of T-statistic can be seen on the image 1 where the indicator represents each variable that can be seen by the direction of the arrow. The learning media variables are presentation, demonstration and video. Interest consists of being active in the classroom, presence and reward. The achievement has its own cognitive assessment.

The assessment of inner model is conducted by the R-Square. This is the goodness fit model. The second assessment is to see the significant effects between the constructs. From the table above it can be seen that the interest construct is 0.565822. It can be interpreted that the variability construct of interest can be explained by 56.58% of learning media construct. The 43.157 rest is affected by another factors that is not taken in this study. From the variable of cognitive assessment it is obtained the value of 0.711675. It can be interpreted that the variable construct of
cognitive assessment can be explained by construct of interest and learning media that reaches 71.16%. 28.84% rest is affected by other variables that is not studied in this research.

Table 2. Percentage of the effects between variables (learning media, interest and cognitive assessment)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Latent Variabel Correlation</th>
<th>Direct Path</th>
<th>Indirect Path</th>
<th>Total Path</th>
<th>Direct Path (%)</th>
<th>Indirect Path (%)</th>
<th>Total Path (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning media &gt;cognitive assessment</td>
<td>0.80700</td>
<td>0.52637</td>
<td>0.280621</td>
<td>0.80699</td>
<td>42,479</td>
<td>16,233</td>
<td>58,711</td>
</tr>
<tr>
<td>Interest Cognitive assessment</td>
<td>&gt; 0.76901</td>
<td>0.37306</td>
<td>0</td>
<td>0.37306</td>
<td>28,689</td>
<td>0</td>
<td>28,689</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71,168</td>
<td>16,233</td>
<td>87,400</td>
</tr>
</tbody>
</table>

Table 2 is showing that the learning media and interest are able to affect directly the cognitive assessment. The assessment result towards the coefficient parameter between learning media and cognitive assessment shows 42.479% direct effect. The variable of interest towards the cognitive assessment shows 28.689% direct effect.

If the value of every direct effect of independent latent variable shows the suitability of R-square or in other words the variable of learning media and interest able to explain the variables of cognitive assessment in learning ASKEB I (42.479% + 28.689%) = 71,168 %. The indirect effects of learning media variable toward the cognitive assessment from the student interest is obtained by multiplying the independent path coefficient (learning media >interest) with the path coefficient (interest >cognitive assessment) and the result is 16.233%.

Predictive Relevance (Q-Square Value)

The test of Q-Square is intended to measure the diversity of data towards the phenomenon researched. Below is the formula used to measure the Q-square (Q2).

\[
Q^2 = 1 - (1 - R1^2)(1 - R2^2)
\]

\[
Q^2 = 1 - (1 - (0.565822)(1 - (0.711675))
\]

\[
Q^2 = 0.874816 atau 87.48%
\]

Galat model = 12.51%

Based on the formula, it can be concluded that the analysis model can explain 87.48% of data diversity and can be used to verify phenomenon used in this research. 12.51% rest is the other factors that are not studied in this research.

Discussion

The effects of Learning Media and Interest toward the cognitive assessment in learning ASKEB I

Direct effects between learning media and interest toward the cognitive assessment in learning ASKEB I by the
Associate Degree of Midwifery students semester IV STIKES Maranatha Kupang 2016 is 71.168 %. In this research concept framework, it is explained that the learning media used affects the interest of learning. If a teaching-and-learning process uses good learning media, students will give their attention to it. The more interest student has, the better achievement of cognitive assessment they will get in learning ASKEB I.

This result is in line with the research conducted by Bagus Setyo Pramono (2013) in his essay entitled ‘Pengaruh Minat Belajar dan Kualitas Media Pembelajaran Terhadap Prestasi Belajar Mahasiswa Pendidikan Akuntasi Pada Mata Kuliah Manajemen Keuangan Angkatan 2010’ (The Effect of Interest and Quality of Learning Media Toward the Achievement of Accounting Students in Financial Management 2010) shows the result of Interest and quality of learning media together, affect the achievement of the students where Fcount=56.211 > 3.072 with significant value 0.000<0.05. The \( R^2 \) is 0.484. It means that 48.4% of accounting student achievement is affected by interest variable and the quality of learning media. The 51.6% rest is affected by another factors that are not concluded in this research. According to Muhbin Syah’s theory, the factors that determine the result of the study come from internal, external and learning approach. Internal factors that is included in this study is interest, where the interest itself can be improved by learning media used. Therefore, the assumption from the researcher is the better quality of learning media, the higher interest students will give. It will raise the cognitive assessment value of the students.

Based on the study result, direct effect of using learning media towards cognitive assessment in learning ASKEB I by Midwifery students semester IV in STIKES Maranatha Kupang 2016 is 42.479%, whereas the indirect effects of learning media variables toward the Cognitive assessment is 16.233%. Assessment result of the coefficient parameter between learning media toward the cognitive assessment in learning ASKEB I, showing the positive effect 0.526378 with T-statistic 3.328942 and the significance in \( \alpha=5\% \).

It can be concluded that the learning media has positive impact either directly or indirectly and also significance toward the cognitive assessment in learning ASKEB I. The influence of learning media toward cognitive assessment in learning ASKEB I is 58.711% with Rho factor 0.806999 and latent variable correlation is 0.807000 or 80.70% significance. This means 120 students who filled the questioner, 80.70% wrote positive correlation and significant between learning media and cognitive assessment in learning ASKEB I.

In line with the study by Yohana Budi Noviyanti et al (2012) entitled ‘Pengaruh Minat Belajar Siswa dan Media Pembelajaran terhadap Hasil Belajar Mata Pelajaran Teknologi Informasi di SMK Negeri 3 Surakarta Tahun 2012’ (The Effect of Interest and Learning Media toward the Result of the Study in ICT Subject in SMK Negeri Surakarta 2012). Based on the double analysis of regression to 62 students shows the Tcount 3.2019 > t table 2.001 and R (coefficient regression) 0.169, no negative value found and the
value of significant Tcount is $0.002 < 0.05$. Therefore, it can be concluded that there is positive influence and significant learning media toward the result of the study for ICT subject in grade X, Office Administration Study in SMK Negeri 3 Surakarta. Therefore, the researcher assumes that the using of learning media in teaching-and-learning process is helpful in building an effective learning process and to deliver a topic/subject. Besides to raise interest, learning media is also helpful in interpreting data and compacting information. Learning process using media can increase the activity of learning rather than no media. However, we should keep in mind that the role of media will not be seen if the use of it is not in line with the content and objective of the teaching that have been defined. The goal of teaching is the guideline in using media.

**The Effect of Interest toward Cognitive Assessment in Learning ASKEB I**

The study result shows that the variable of interest effect the cognitive assessment in learning ASKEB I by Midwifery students semester IV in STIKES Maranatha Kupang 2016. The direct effect is 26.689%. The assessment result on coefficient parameter of learning media toward cognitive assessment in learning ASKEB I, shows 0.373062 positive influence with T-statistic value 2.288859 dan significant to $\alpha=5\%$. Therefore, it can be concluded that the interest of 28.689 % student has direct positive and significant influence toward cognitive assessment in learning ASKEB I with 0.373062 Rho factor. The latent variable correlation is 0.769010 with significant value 76.90%. This means 76.90% of 120 students who filled the questioner about the interest, gave positive correlation and significant between interest and cognitive assessment in learning ASKEB I.

The result of this research fits the research by Bagus Setyo Pramono (2013) in his Essay entitled ‘Pengaruh Minat Belajar dan Kualitas Media Pembelajaran Terhadap Prestasi Belajar Mahasiswa pendidikan akuntasi pada mata kuliah manajemen keuangan angkatan 2010’ (the Effects of Interest and Quality of Learning Media toward the Achievement of Accounting Students in Financial Management Subject 2010). Research method applied is descriptive method employed 123 students. Data collecting uses questionnaire. Based on the result of double linear, found out that interest effects the achievement. It is proved by the calculation of T-Count for interest variable 5.481. Therefore, T-Count $> t$-tabel, there is 5.481 $> 2.269$ or $0.000 < 0.05$. Based on this result, the researcher assumes that to get a good achievement, besides intelligence, interest also takes an important part. Interest makes a person settles on something that attracts them. Without interest, student won’t learn effectively and efficiently which is directly influences the result of the study. Therefore, a teacher should concern the interest of students. If they give less interest, consider to apply another teaching strategy.

**Conclusion**

This research consists of assessment method to find out the direct and indirect effects of learning media and interest toward cognitive assessment and how much the effect takes place. This research is applied to Associate Degree of
Midwifery students in semester IV STIKES Maranatha Kupang 2016. After the hypothesis test using SmartPLS is conducted, it is found that learning media affects cognitive assessment in learning ASKEB I, both directly and indirectly, via interest. If a teaching-and-learning process using a good media, students will be more interested in learning the subject given. The more interest a student has, the better achievement they will get.

Based on the result of this research, we can say that to achieve a good result of studying, diverse learning media are needed from the teacher and lecturer to support the developing of student cognitive, affective and psychomotor ability. With the use of media effectively and optimally, student’s interest will grow. With a good interest, it is easier for the students to accept and respond every subject delivered, therefore it will give positive effect to the result of achievement. Therefore, it is expected to all the involved parties to work together in improving the student interest of learning by using different kinds of media to get the students to be active in the whole process. If this techniques applied correctly, a good achievement will be obtained. Besides that, it is expected to the researchers to apply advance research using different variables and indicators that has effects on cognitive assessment since this type of research is rarely conducted.

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Conflict of Interest

None declared.

References

5. Haryanto. Pengertian Pendidikan menurut Ahli (http://belajarsikologi.com/penger