

Analysis of Student Needs for E-content in E-learning to Build Self Learning Awareness of Students on Chemical Equilibrium Materials

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Abstract:

This study aims to analyze the level of self-learning awareness of high school students on chemical equilibrium materials. The method used in this study is qualitative descriptive. Data collection technique used self learning awareness questionnaire students were shared through google form with 6 assessment indicators which familiar with one's own behavior and feelings, familiar with the advantages and disadvantages contained in themselves, had an independent attitude, abled to make their own decisions appropriately, skilled when expressing their own opinions / feelings / thoughts / beliefs, Can evaluate yourself. Based on the indicator of self learning awareness students obtained results 1) knowing the behavior and feelings of themselves with a presentation of 45% and into the category is quite good, 2) knowing the advantages and disadvantages contained in itself by 52% with a good enough category, 3) having an independent attitude of 68% with a high category, 4) Having ability to make their own decisions correctly by 57% with a good enough category, 5) Having skill when expressing opinions / feelings / thoughts / beliefs alone by 88% with a very high category, 6) Having ability to evaluate by 75% with high categories. Based on the results of research it can be concluded that the high number of student needs for electronic teaching materials to increase the interest of students learning and needed variations in the learning process. It will develop a stable and beneficial self-awareness to enhance their self-learning skills in a variety of realms. In addition, learning by used E-learning makes the knowledge more extensive.

Keywords —Analysis, chemical equilibrium material, Self Learning Awareness, Analysis qualitative method, Learning process.

I. INTRODUCTION

Education is a planned effort in the process of mentoring and learning for individuals to develop and grow into independent, responsible, creative, knowledgeable, healthy and noble human beings, both seen from the physical and spiritual aspects.[1]. Through education, humans will learn to be better and to learn science that will provide knowledge about human life. The world of education is also

expected to be able to build a sense of awareness for humans to build their own nation[2]. The self-awareness possessed by a student towards the behavior or attitude he does when studying a science is also called self-learning awareness or one's self-awareness in the learning process.[3].

Learning activities are an activity of transferring messages from educators to students. In this case, the message conveyed does not always have to be face-to-face but can also be done remotely through

the help of information technology[4]. Information technology is increasingly easy to use and sophisticated in its application, it must be used to improve the quality of learning according to goals and objectives. Learning must also be effective, namely managing time and learning methods that are more practical[5]. With the ease and practicality of this form of learning, it is hoped that it can increase students' learning desires and can form students' self-awareness to study the material to be studied first before starting learning because it has been facilitated by advances in information technology.

In learning activities students must have awareness, motivation and willingness of students to be independent when learning, the ability to find additional relevant learning resources other than what the teacher says. Weak self-study attitudes also have an impact on weak student learning activities, lack of self-confidence, dependence on others and lazy learning attitudes. The existence of an independent attitude in students will achieve learning goals as expected and with high learning independence it will also be followed by high learning achievement.[6]. Building self-awareness is very important. A student will be trained in understanding themselves through the learning process at school. This will influence them in making decisions for their future. Thus, developing student identity is one of the goals that must be achieved by teachers in schools[7].

The indicators of self learning awareness in learning are: a) being able to recognize one's own behavior and feelings; b) identify strengths and weaknesses; c) have an independent attitude; d) can make a decision correctly; e) can express thoughts, feelings, opinions and beliefs; f) can self-evaluate[8]. In addition, the factors that influence students' lack of awareness in distance learning are the students' own interest and motivation to take part in learning.

Conventional chemical equilibrium learning becomes an obstacle in realizing students' independence and activeness which is a supporting factor for increasing mathematical creative thinking

skills and self learning awareness. The tendency of chemistry teachers to dominate learning has resulted in the low activity of students who are not given the opportunity to be directly involved in scientific activities. These limitations certainly need to be avoided to optimize creative thinking skills that require perseverance, personal discipline and attention that involve mental activities such as asking questions, considering new information and unusual ideas with an open mind.[9]. To increase independence and self-awareness, other forms of learning processes are needed that support the interests and desires of these students.

One alternative that can be used to increase independence in the learning process is the implementation of e-learning. The characteristics of e-learning that allow students to no longer depend on teachers but can learn from various sources, so it is hoped that students' learning independence will increase. In addition, e-learning can also be used as a source of interactive and interesting teaching materials, so that interest,

motivation, independence and student learning outcomes are expected to increase.[6].

The purpose of this study was to determine the level of student need for teaching materials provided online with various forms of reference to build self-learning awareness of these students. The expected results of this research can provide initial information about E-content, whether it needs to be developed so that students' self-awareness for independent learning increases and what needs to be developed in E-content itself.

II. METHOD

This research is a qualitative descriptive study with a survey method. In this study, an analysis of the need for E-content was carried out. The purpose of the results of this study is to describe, describe, explain, explain and answer in more detail the problems to be studied by studying as much as possible an individual, a group or an event.[10].

Data collection was carried out in March 2021 at SMAN 5 Padang. The population of this study were

students of class XI with a sample of 70 people who were randomly selected. The data collection technique is a questionnaire. Questionnaires are used to collect data on E-content needs for student learning media[11]. Questionnaires were distributed via google form. Questionnaires were used to obtain data on student responses regarding the level of self-learning awareness and content needs in E-learning. The research data were analyzed descriptively and qualitatively.

III. RESULTS AND DISCUSSION

A. Results

Based on the results of observations made, the level of self-learning awareness and content needs in E-learning by distributing questionnaires is obtained as listed in table 1.

TABLE 1
SELF LEARNING AWARENES LEVELS

No	ObservasionResult	Presentasion (%)	Category
1	Know your own behavior and feelings	45%	Pretty good
2	Get to know the advantages and disadvantages that are in themselves	52%	Pretty good
3	Have an independent attitude	68%	High
4	Able to make decisions on their own	57%	Pretty good
5	Skilled at expressing own opinions/feelings/thoughts/beliefs	88%	Very high
6	Can self-evaluate	75%	High
Average		64,2%	High

Based on the data contained in Table 1. It shows that the average self learning awareness of class XI students of SMAN 5 Padang on chemical equilibrium material is 64.2% and is included in the high category, thus it can be said that the level of self learning awareness of class XI students those who study chemical equilibrium at SMAN 5 Padang are doing well. Based on the indicators of self learning awareness of students, the results

obtained are 1) familiar with their own behavior and feelings with a presentation of 45% and are included in the fairly good category, 2) familiar with the strengths and weaknesses that exist in themselves by 52% with a fairly good category, 3) have an independent attitude of 68% with a high category, 4) able to make their own decisions correctly by 57% with a good enough category,

From the results of the self-learning awareness level of class XI students of SMAN 5 Padang on chemical equilibrium material, they have quite good results with a high category average and at each level have fairly good and good results with a range of categories from quite good to high, so that they get The results show that the class XI students of SMAN 5 Padang already have a high level of self-learning awareness so that they can and are worthy of being used as samples of E-content development. The high level of self-learning awareness of students will affect their ability to participate in the teaching and learning process that is controlled by electronic classrooms such as E-content.

The data from the questionnaire distributed to students, then on graph 1 Data Level of Self Learning Awareness of Class XI Students on Chemical Equilibrium Material. In graph 2 the Data on the Level of Difficulty in Learning Chemical Equilibrium Material. In graph 3 the Data on the Level of E-content Needs and in graph 4 Data on the Unavailability of E-content Based on a Scientific Approach to Chemical Equilibrium Materials.

TABLE 2
OBSERVATION RESULT

No	Observation Results
1	The level of student awareness in the learning process is quite good
2	The learning difficulties experienced by students are still quite high
3	Students need E-content for remote teaching and learning
4	Not yet available E-content based on scientific approach

Table 2 explains the results of the questionnaire observations which are divided into 4 criteria, 1) the level of awareness of students in the learning

process is quite good, 2) the learning difficulties experienced by students are still quite high, 3) students need E-content for the teaching and learning process from a distance. far, 4) the absence of scientific approach-based E-content. Get the graphic results listed below:

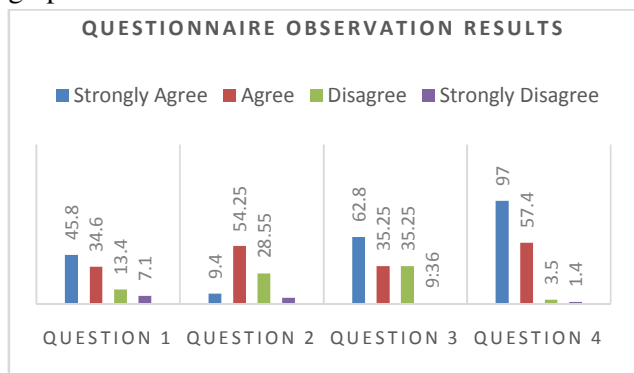


Fig. 1 Graphic result of questionnaire observation

Based on the students' self-learning awareness indicators, the results are 1) familiar with their own behavior and feelings with a presentation of 45% and are included in the fairly good category, 2) familiar with the advantages and disadvantages that exist in himself by 52% in the fairly good category, 3) having an independent attitude by 68% in the high category, 4) being able to make his own decisions correctly by 57% in the quite good category, 5) are skilled at expressing their own opinions/ feelings/ thoughts/ beliefs by 88% with a very high category, 6) can evaluate series by 75% with a high category. Based on the results of the study it can be concluded that skilled at expressing their own opinions/feelings/thoughts/beliefs by 88% with very high category, able to evaluate series by 75% with high category.

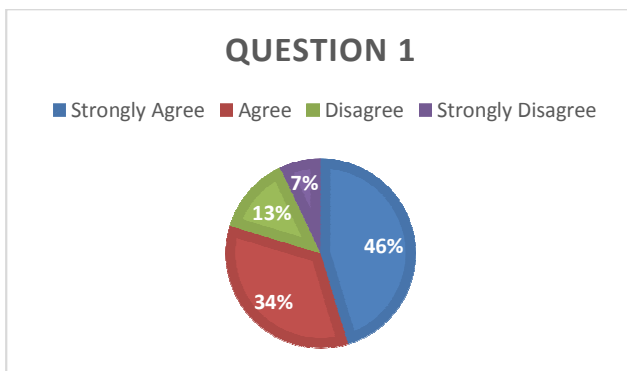


Fig. 2 Graphic result of questionnaire observation Question 1

1) **Graph 1 Level of Self learning awareness of Class XI Students on Chemical Equilibrium Material** : From 70 observation data that has been filled in by class XI students of SMAN 5 Padang, data obtained are 45.8% and 34.6% of students who have a high level of self-learning awareness, 13.4% and 7.1% of students who have a high level of self-learning. low self-learning awareness in chemistry subjects chemical equilibrium material.

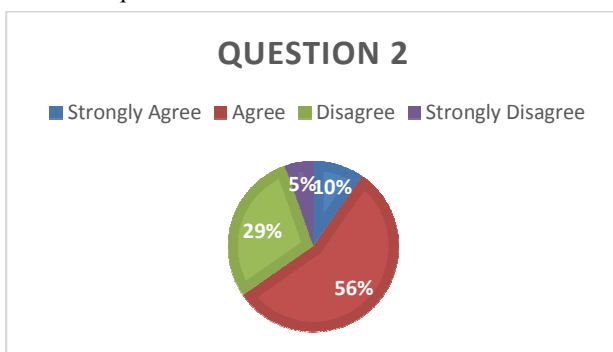


Fig. 3 Graphic result of questionnaire observation

2) **Graph 2 Data on the Level of Difficulty in Learning Chemical Equilibrium Materials** :From 70 observation data that have been filled in by class XI students of SMAN 5 Padang, the data obtained are 9.4% and 54.25% of students who have a high level of self-learning awareness, 28.55% and 5.27% of students who have a high level of self-learning. low self-learning awareness in chemistry subjects chemical equilibrium material.

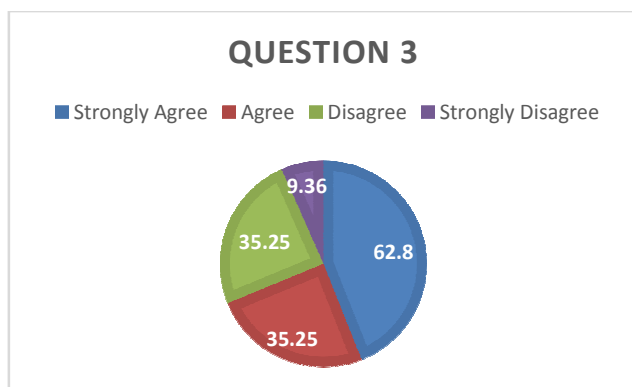


Fig. 4 Graphic result of questionnaire observation Question 3

3) **Graph 3 E-content Demand Level Data** :From 70 observation data that have been filled in by class XI students of SMAN 5 Padang, the data obtained are 62.8% and 35.25% of students who have a high level of self-learning awareness, 35.25% and 0.4% of students who have a high level of self-learning. low self-learning awareness in chemistry subjects chemical equilibrium material.

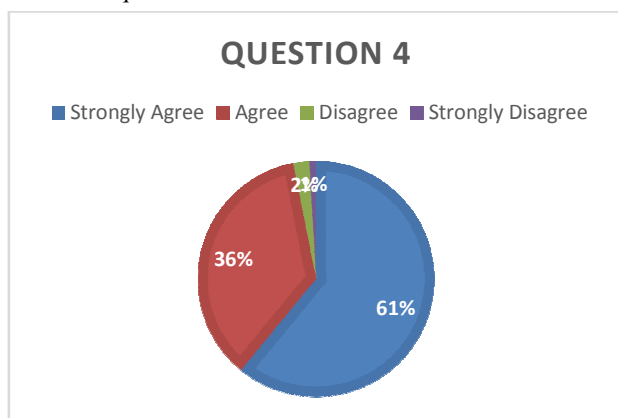


Fig.5 Graphic result of questionnaire observation Question 4

4) **Graph 4 Data Unavailability of E-content Based on Scientific Approach on Chemical Equilibrium Material**:From 70 observational data that has been filled in by class XI students of SMAN 5 Padang, data obtained are 97% and 57.4% of students who have a high level of self-learning awareness, 3.5% and 1.4% of students who have a high level of self-learning. low awareness on chemistry subjects chemical equilibrium material.

B. Discussion

Based on the observational data, it was found that students had a fairly high level of self-learning awareness in chemistry subjects, especially chemical equilibrium materials. This is because as many as 27 students have not been able to realize

their own needs so that there are still some students who have a fairly low level of self-awareness of learning. This is influenced by many factors such as internal factors (which come from the students themselves) namely physical, psychological factors and also external factors (derived from the environment) namely the lack of support from parents and the surrounding environment for learning.[12].

Learning independence is an attitude that must be carried out by students when studying independently, students have their own initiatives according to the needs of the students themselves. To develop student learning independence, the teacher should create a conducive learning atmosphere and avoid anything that will interfere with student learning, encourage students to understand the correct methods and procedures in completing a task, help students manage time, foster confidence in their students being able to do the task. given, encourage students to control their emotions and not easily panic when completing assignments or facing difficulties, as well as showing the progress that students have made[12]. With the above description the use of E-content to build the level of self-awareness of students can be applied because of the completeness of the media provided by E-learning with no restrictions on viewing and also the ease of access.

E-learning is a direct learning principle where in its application E-learning prioritizes independent learning, namely web-based distance learning that can be accessed via the internet network. [7]. With the support of the level of self-learning awareness of SMAN 5 Padang students, this learning can be carried out to build self-learning awareness of class XI students of SMAN 5 Padang, from the observations that have been obtained.

IV. CONCLUSIONS

Based on the results that have been described by the researcher above, it can show that the average self-learning awareness of class XI students of SMAN 5 Padang on chemical equilibrium material is 64.2% with a high category so that the self-

learning awareness of class XI students of SMAN 5 Padang is quite good. The results also show the high number of students' need for electronic teaching materials to increase student interest in learning and variations in the learning process are needed. This will develop a stable and beneficial self-awareness to enhance their self-study skills in various areas. In addition, learning using E-learning makes their knowledge wider.

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