Analysis of the affective domain assessment through online learning in the digital era
(Case Studies of the Third Graduate Students Program on the Contexts of Online Learning)

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Abstract

Assessment of the affective domain is one of the activities carried out by lecturers in order to measure and determine the achievement of learning objectives. The affective domain is related to the attitudes and behavior of students as educated people in interacting with lecturers, other students, and their environment. Harmonization in socializing is concrete evidence of the application of the affective domain. The purpose of this study is to find out and describe the extent to which the affective domain contributes to online learning for postgraduate school students in the digital era. This research includes qualitative research with a case study approach. Methods of data collection using observation, interviews, and questionnaires. The number of samples in this study was 20. The samples were graduate school students in the third semester of the 2023 academic year. The results of this study showed that graduate school students preferred offline learning or face-to-face learning in class compared to online or online learning. Even though in today’s digital era, Postgraduate School students still uphold ethics, courtesy, and good attitudes towards lecturers, fellow friends, parents, and their environment.

Keywords

Affective Domain, Online Learning, Digital Era.
1. Introduction

Affective Domain

Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System Chapter II Article 3, that the purpose of national education is to develop knowledge, attitudes and skills, and to maintain the noble values of the Indonesian people. The curriculum in Indonesia has undergone many changes, and what is currently being used is the 2013 curriculum.

In the 2013 curriculum, assessment is more assertive and comprehensive than the previous curriculum, because it explicitly requires teachers to carry out assessments in 3 (three) domains, namely cognitive, affective and psychomotor. The assessment of these three domains is also referred to as authentic assessment.

According to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 104 of 2014 concerning Assessment of Learning Outcomes by Educators in Basic Education and Secondary Education Article 1 Paragraph 2 it states that "Authentic assessment is a form of assessment that requires students to display attitudes, use knowledge and skills obtained from learning in carrying out tasks in real situations. In the implementation of the learning process at various levels of formal education, the emphasis is on evaluating the cognitive domain only, while the affective and psychomotor domains are often neglected.

Mulyadi (2014: 5) states that: The affective domain is a domain related to a person's attitude, changes can be predicted if a person already has a high level of cognitive mastery. The type of affective learning will appear in students in various behaviors, such as attention to lessons, discipline, learning motivation, respect for teachers and classmates, study habits, and social relations.

Arikunto (2012: 193) states that: Measuring the affective domain is not as easy as measuring the cognitive domain. Measurement of the affective domain cannot be carried out at any time (in the sense of formal measurement), because changes in student behavior cannot change at any time. Changing one's attitude requires a relatively long time. Some of the things that make it difficult for teachers in carrying out affective domain assessments are if there are more and more assessment indicators, the more complicated the assessment will be, which can cause the assessment to become inauthentic.

This problem encourages researchers to conduct research on affective assessment in the digital era as it is today, resulting in students having to study with online learning systems that utilize digital technology, making it even more difficult to carry out affective assessments of Postgraduate School students. Researchers want to analyze more deeply about the implementation of affective assessment in universities.

Affective assessment in the digital era consists of the words assessment, affective, and the digital era. Assessment Terminology according to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 23 of
2016 concerning Educational Assessment Standards Chapter I Article 1 Paragraph 2 states that, "Assessment is the process of collecting and processing information to measure the achievement of student learning outcomes." This is also corroborated by the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 104 of 2014 concerning Assessment of Learning Outcomes by Educators in Elementary and Secondary Education Article 1 Paragraph 1 which states that, Assessment of Learning Outcomes by Educators is the process of gathering information/evidence about the learning outcomes of participants students in the competence of spiritual attitudes and social attitudes, knowledge competencies, and skill competencies that are carried out in a planned and systematic manner, during and after the learning process. Assessment is also used as an illustration of student learning development which is used as a tool for teachers to determine whether the student has experienced the learning process optimally or not. Meanwhile for students, assessment can be used as a reference to motivate themselves so that they can further improve everything that is still lacking.

Assessment purpose according to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 23 of 2016 concerning Educational Assessment Standards Chapter III Article 4 explains that,

1. Assessment of learning outcomes by educators aims to monitor and evaluate processes, learning progress, and continuous improvement of student learning outcomes.

2. Assessment of learning outcomes by the Education Unit aims to assess the achievement of Graduate Competency Standards for all subjects.

3. Assessment of learning outcomes by the Government aims to assess the competency achievement of graduates nationally in certain subjects.

Based on this explanation, the purpose of the assessment is used to monitor the achievement of student learning outcomes and to determine appropriate feedback in improving student learning outcomes. Assessment also aims to evaluate the process and monitor learning progress and improve student learning outcomes consistently and continuously.

**Definition of the Affective Domain**

The terminology of the affective domain is one of the three domains which is used as a benchmark for the level of success of students in learning. The affective domain is closely related to a person's behavior and attitude. According to Mulyadi (2014: 5) states that "The affective domain is a domain related to a person's attitude, changes can be predicted if a person already has a high level of cognitive mastery. The type of affective learning will appear in students in various behaviors, such as attention to lessons, discipline, learning motivation, respect for teachers and classmates, study habits, and social relations.

Based on the explanation described above, in the context of higher education it can be understood that the affective domain is a domain related to...
student behavior. This affective domain assessment is carried out both inside and outside of learning. The affective domain determines the success of student learning. Some important components of the affective domain are, for example, interest and attitude towards a subject or learning material. students can have a positive attitude towards certain subjects or learning materials, can also be negative, or neutral. The hope of all lecturers is, of course, that students have a positive attitude and interest in all subjects or learning materials. Through this positive attitude, positive results can then be actualized in real life.

According to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 104 of 2014 concerning Assessment of Learning Outcomes by Educators in Elementary and Secondary Education Article 3 Paragraphs 1 and 2 explains that:

1. Assessment of learning outcomes by educators functions to monitor learning progress, monitor learning outcomes, and detect the need to improve student learning outcomes on an ongoing basis.

2. Evaluation of learning outcomes by Educators as referred to in paragraph (1) is carried out to fulfill the formative and summative functions in the assessment.

**Affective Domain Categories**

According to Sudjana (2017: 30) states that there are several types of affective domain categories as learning outcomes. These categories range from simple to complex. These categories include:

1. Receiving/attending, namely a kind of sensitivity in receiving stimulation in the form of ideas, problems, situations, material or certain events.

2. Responding, namely the reaction given by a person to external stimuli.

3. Valuing, namely the ability related to the belief in the value of the symptoms received by students.

4. Organizing, namely the ability to develop values into a system including the relationship of a value with other values.

5. Value characterizing, namely the integration of all value systems that have been owned by a person and affect the pattern of personality and behavior.

**Characteristics of the Affective Realm**

Kusnandar (2014: 112) suggests that there are five important types of affective characteristics, namely attitudes, interests, self-concept, values, and morals.

1. Attitude, is a tendency to act in likes and dislikes towards something. Attitudes can be formed by observing or imitating something that can be seen or heard.

2. Interest, is a person’s desire for a particular thing.

3. Self-concept, is an evaluation carried out by individuals on their abilities and weaknesses. The target self-concept is usually people, but it can also be institutions such as schools. This self-concept is important for determining the career path of students.
(4) Value, is a belief about actions, actions, or behaviors that are considered good or bad.

(5) Moral, moral is closely related to feelings of wrong or right for the happiness of others or feelings for one's own actions.

**Techniques and Instruments of Affective Assessment**

Assessment is something that is considered important to know the development of students. The techniques and instruments used for attitude (affective) assessment according to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 66 of 2013 concerning Education Assessment Standards Chapter II are as follows, An educator in conducting attitude assessment can be through observation, self-assessment, peer assessment evaluation). The instruments used to carry out observations, self-assessments, and assessments among students are checklists or rating scales accompanied by rubrics, while the journal pad is in the form of educator notes.

In terms of knowing the extent to which students' attitudes and interests are towards a subject or subject matter, the latter is an important part of the affective domain, the teacher needs to develop an affective assessment instrument. To compile an affective assessment instrument, the following steps can be taken:

1. Selection of the affective domain that the teacher wants to assess, for example attitudes and interests towards a subject matter.

2. Determining what indicators can be used to find out how students' attitudes and interests are towards a subject matter.

3. Some examples of indicators that can be used to find out how students' attitudes and interests are towards a subject matter, namely: (1) the percentage of attendance or absence in class; (2) student activities during learning activities, for example whether they like to ask questions, are actively involved in discussions, actively pay attention to teacher explanations, etc.; (3) completion of assigned learning tasks, such as being on time to collect homework or other assignments; (4) the neatness of the notebooks and the completeness of other learning materials related to the subject matter.

4. Determining the type of scale used, for example if using a Likert scale, it means that there are five scale ranges, namely: (1) not interested; (2) less interested; (3) neutral; (4) interested; and (5) very interested.

5. Writing a draft of an affective assessment instrument (eg in the form of a questionnaire) based on predetermined indicators and scale.

6. Review and ask for input from colleagues (other teachers) regarding the draft affective assessment instrument that has been made.

7. Revise the affective assessment instrument based on peer review and input, if necessary.

8. Preparation of questionnaires to be distributed to students along with an inventory of self-reports given by students based on the results of the questionnaire (questionnaire).
9. Giving inventory scores to students.

10. Analysis of the results of the inventory of students' interest in the subject matter.

Based on the description above, the things that are deemed necessary to know the affective assessment of Postgraduate School students in the digital era. The lecturer's efforts in carrying out affective assessment during learning are through a persuasive approach, observation or observation, self-assessment, and peer assessment. This study also describes the obstacles that exist in student affective assessment in the digital era and what solutions can be implemented in affective assessment in this digital era in order to realize national education goals.

How to score in an affective assessment

The scoring technique for assessing the affective domain can be done simply. For example, in the instrument for assessing student interest in a lecture material there are 10 items (meaning there are 10 indicators), so if the scale used is a Likert scale (1 to 5), it means that the lowest possible score a student can get is 10 (out of 10 items x 1) and the highest possible score students get is 50 (out of 10 items x 5). So we can determine the median, which is \((10 + 50)/2\) or equal to 30. If you divide it into 4 categories, then a score of 10 -20 is considered not interested; a score of 21 – 30 includes less interest; a score of 32-40 is interested, and a score of 41-50 is in the very interested category.

Digital Era

According to Lev Monovich who is a Professor of Visual Arts, University of California, San Diego, in his book The Language of New Media. Lev Manovich (2002) identified five digital characteristics, namely numerical representation; modularity (the principle of assembling larger units from smaller ones); automation; variability; and transcoding (the link between computing and everyday culture). According to him, digital theory is always closely related to the media, because the media continues to develop along with advances in technology, from old media to the newest media, making it easier for humans in all fields related to Digital Theory.

Digital comes from the Greek, that is, comes from the word Digitus which means fingers. The number of our fingers is 10, and the number 10 consists of the numbers 1 and 0. Therefore Digital is a depiction of a state of numbers consisting of the numbers 0 and 1 or off and on (binary numbers). All computer systems use digital systems as their database. Also known as Bits (Binary Digits). Digital is a complex, flexible method that makes it a staple in human life. Whereas Digital Theory is a concept of understanding from the times regarding Technology and Science, from everything that is manual to automatic, and from everything that is complicated to be concise.

Digital technology is technology that no longer uses human power, or manually. But it tends to be an automatic operating system with a computerized
system or a format that can be read by a computer. The digital system is the development of the analog system. A digital system uses a sequence of numbers to represent information. Unlike analog signals, digital signals are non-continuous.

2. Research method

This research is a field research in the form of descriptive qualitative. Qualitative research is research that intends to reveal a symptom that is the object of research in a field of science. More specifically, the purpose of the research method is to reveal the truth or conclusions about an object which can then be used as a basis for forming a theory. Theory is a comprehensive conclusion about a phenomenon. To get an in-depth picture of affective assessment in the digital era at the Islamic Nusantara University Bandung Postgraduate School, several stages were carried out in data collection.

In the first stage, the researcher conducted an orientation by collecting general and in-depth data on important, interesting and useful matters for further research through the observation method during the online learning process. The second stage, the researcher conducted an exploration of data collection in a more directed manner according to the focus of the research and to find out the data sources or respondents who knew about the things to be studied. In the third stage, researchers conducted focused research, namely developing research on the focus of student affective assessment in the digital era.

Observations are used for research that has been planned systematically about how students' affective assessments are in the digital era. The purpose of this observation is to observe the objective conditions of students related to attitudes, behavior and ethics in interacting with lecturers, classmates and their environment.

Researchers also collected data through the interview method with the aim of obtaining in-depth information from respondents about the things to be observed and as a preliminary study to find problems that must be studied. In the interview the researcher acted as the interviewer as well as the leader in the interview process.

The interviews were conducted through structured interviews by preparing research interview instruments in the form of written questions whose alternative answers had also been prepared. The reasons for the researchers carrying out data collection techniques by interview included the researcher wanting to conduct a preliminary study to find problems in the field, and deepen the qualitative data obtained through interviews regarding affective assessment of students in the digital era. In addition, researchers also used another research instrument, namely a questionnaire by asking 20 questions. This is done to ensure that the data in this study can be accounted for academically.

Researchers use narrative analysis techniques in this study. Narrative analysis is defined as the activity of listening and paying attention to information spoken by respondents who are one of the sources of research data to be analyzed.
comprehensively by taking core information in accordance with research objectives (Suharyanto H. Soro, 2023). Data analysis techniques are related to the process of simplifying data into a form that is easy to read and interpret.

3. Results and discussion

The online learning process is carried out through internet media. This media is able to display students virtually. Students share links to all class mates (students) with their lecturers with optional time, namely limited time and unlimited time. The number of minutes for a limited time is 40 minutes. Students are given the opportunity for the duration to carry out various learning activities.

Based on observations during the learning process through the zoom meeting application, various forms of display were found on computer screens and cellphone screens. There are two options for students and lecturers, namely open camera and off camera. The menu in the zoom meeting application can also mute the sound. This aims to create clarity of sound so that students can listen well to the material delivered by their lecturers.

Online learning through the zoom meeting application has advantages and disadvantages. One of the advantages of online learning is that lecturers and students can attend lectures regardless of place and time as long as the internet network is good. Even while traveling, you can do or join online lectures. While the weakness is that both lecturers and students cannot assess their performance in real terms. For example, when a lecturer delivers teaching material, students cannot prove whether the lecturer read PowerPoint or the like or not. In contrast to face-to-face lectures in class, students see firsthand when the lecturer enters class carrying books, laptops or not. Likewise when explaining teaching material without reading powerpoint.

From the results of the analysis based on observational data, interviews, and questionnaires, it was found that students (respondents) did not find it difficult to follow the learning process in the digital era, they were happy with the learning system in the digital era with online methods (online), but they were more happy when studying in the classroom with the lecturer and his friends. Students find it difficult to understand teaching material delivered by lecturers through an online learning system from home, and it is easier to understand with offline learning (face to face).

In this digital era, learning cannot be separated from the influence of technology and this is considered to be one of the burdens of having to provide online learning devices (internet quota). Despite the rapid development of technology, they think that the role of the lecturer in class cannot be replaced by any sophisticated technology. Students also argue that although the learning videos that are shared to explain learning material do not make them understand the learning material adequately., They need physical presence or the role of the lecturer who translates the meaning contextually.
In addition, respondents also argued that even though in this digital era learning is carried out online (online) it does not mean that the habit of praying before starting learning is abolished, but it must still be carried out, and maintaining good manners in the virtual classroom. Respondents strongly disagree if online learning is accompanied by playing online games, respondents also prefer to keep listening to explanations of learning material from lecturers in online learning even though the lecturer has sent the learning material in the class WhatsApp group. Respondents disagree if the material presented is in accordance with everyday life. Respondents thought that with online learning, there was no need to carry out group study activities. Even though learning is done online, students cannot delay doing their assignments, because it will increase the workload given by the lecturer. In this digital era, all students are required to be able to master information and technology (IT).

The terminology regarding the digital era can be interpreted as a period when information is easily and quickly obtained and disseminated using digital technology. Digital technology is technology that uses a computerized system connected to the internet. Digital technology is technology that no longer uses human or manual labor. The digital system is the development of the analog system. Digitization tends to be an automatic operating system with a format that can be read by a computer.

So the presence of technology is needed by Postgraduate School students. One of the functions of IT is to lighten the human burden so as to save time, cost and effort. Lectures via zoom meetings are only optional. This is because the physical presence of lecturers and students in one lecture room gives its own nuances. Lecturers and students can enjoy each other's real lecture climate.

Based on the analysis of data obtained from interviews with respondents, it can be formulated or stated that the affective domain gives its own nuances as positive modeling and is actualized in real life in society so that these affective values are habituated, preserved, and passed on to the next generation. This becomes a vocal point in learning both online and offline. The following is the percentage of student perceptions about learning that contribute to the affective domain.

1. Statement no. 1 (I find it difficult to follow the learning process in the digital era). As many as 5 people (25%) answered Strongly Agree, 3 people (15%) answered Agree, 6 people (30%) answered Less Agree, 8 people (40%) answered Disagree, and 3 people (15%) answered Strongly Disagree.

2. Statement number 2 (I feel happy with the online learning system from home). As many as 8 people (40%) answered Strongly Agree, 5 people (25%) answered Agree, 5 people (25%) answered Less Agree, 2 people (10%) answered Disagree, and 0 people (%) answered Strongly Disagree.

3. Statement number 3 (I prefer to study in the classroom with my teacher and friends). As many as 2 people (10%) answered Strongly Agree, 16 people (80%) answered Accept, 2 people (10%) answered Less Agree, 0 people (0%) answered Disagree, no one answered Strongly Disagree.
4. Statement number 4 (I find it difficult to understand the teaching material conveyed by the teacher through the online learning system (online). As many as 2 people (10%) answered Strongly Agree, 2 people (10%) answered Agree, 9 people (45%) answered Less Agree, 4 people (20%) answered Disagree, and 3 people (15%) answered Strongly Disagree.

5. Statement number 5 (I find it easier to understand teaching material delivered by the teacher directly in class, because it is clearer and I can ask questions directly to the teacher). As many as 5 people (25%) answered Strongly Agree, 10 people (50%) answered Agree, 4 people (20%) answered Less Agree, 1 person (5%) answered Disagree, and no one (0%) answered Strongly Disagree.

6. Statement number 6 (I am more enthusiastic about learning in the classroom because I can meet many friends). As many as 8 people (40%) answered Strongly Agree, 10 people (50%) answered Agree, 4 people (20%) answered Less Agree, 0 people (0%) answered Disagree, and no one (0%) answered Strongly Disagree.

7. Statement number 7 (I feel lonely and bored in participating in online learning). As many as 1 person (5%) answered Strongly Agree, 5 people (25%) answered Agree, 10 people (50%) answered Less Agree, 3 people (15%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

8. Statement number 8 (My parents, family (husband or wife) are burdened by the existence of an online learning system (online) because they have to provide cellphones and quotas for me to study). As many as 2 people (10%) answered Strongly Agree, 2 people (10%) answered Agree, 4 people (20%) answered Less Agree, 9 people (45%) answered Disagree, and 3 people (15%) answered Strongly Disagree.

9. Statement number 9 (The role of the lecturer can be replaced by technology in delivering learning material). As many as 2 people (10%) answered Strongly Agree, 4 people (20%) answered Agree, 7 people (35%) answered Less Agree, 6 people (30%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

10. Statement number 10 (Online learning videos are clearer and make it easier to understand the material). As many as 1 person (5%) answered Strongly Agree, 8 people (40%) answered Agree, 11 people (55%) answered Less Agree, 0 people (5%) answered Disagree, and 0 people (0%) answered Strongly Disagree.

11. Statement number 11 (Politeness to lecturers is no longer important in the digital era). As many as 0 people (0%) answered Strongly Agree, 4 people (20%) answered Agree, 1 person (5%) answered Less Agree, 5 people (25%) answered Disagree, and 10 people (50%) answered Strongly Disagree.

12. Statement number 12 (No need to start and end by praying during online learning). As many as 0 people (0%) answered Strongly Agree, 0 people (0%) answered Agree, 0 people (0%) answered Less Agree, 11 people (55%) answered Disagree, and 9 people (45%) answered Strongly Disagree.

13. Statement number 13 (Participating in online learning can be while doing other work while learning takes place). As many as 2 people (10%) answered
Strongly Agree, 4 people (20%) answered Agree, 9 people (45%) answered Less Agree, 4 people (20%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

14. Statement number 14 (There is no need to listen to the lecturer’s explanation in online learning because there is already material being distributed through the Whatsapp Group application). As many as 0 people (0%) answered Strongly Agree, 1 person (5%) answered Agree, 2 people (10%) answered Less Agree, 12 people (60%) answered Disagree, and 5 people (25%) answered Strongly Disagree.

15. Statement number 15 (Delivery of material in the online learning system is very limited for creativity). As many as 1 person (5%) answered Strongly Agree, 5 people (25%) answered Agree, 8 people (40%) answered Less Agree, 5 people (25%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

16. Statement number 16 (In online learning (online) makes students unable to do group study with classmates). As many as 0 people (0%) answered Strongly Agree, 3 people (15%) answered Agree, 8 people (40%) answered Less Agree, 7 people (35%) answered Disagree, and 2 people (10%) answered Strongly Disagree.

17. Statement number 17 (In the online learning system (online) I turn off the camera because I am doing other work). As many as 0 people (0%) answered Strongly Agree, 4 people (20%) answered Agree, 5 people (25%) answered Less Agree, 7 people (35%) answered Disagree, and 4 people (20%) answered Strongly Disagree.

18. Statement number 18 (In online learning I am freer not to pay attention to the lecture material being presented). As many as 0 people (0%) answered Strongly Agree, 2 people (10%) answered Agree, 3 people (15%) answered Less Agree, 11 people (55%) answered Disagree, and 4 people (20%) answered Strongly Disagree.

19. Statement 19 (Online learning makes it easier for me to get an academic degree). As many as 0 people (0%) answered Strongly Agree, 7 people (35%) answered Agree, 9 people (45%) answered Less Agree, 3 people (15%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

20. Statement number 20 (Online learning can reduce students' affective value to their lecturers and classmates). As many as 0 people (0%) answered Strongly Agree, 8 people (40%) answered Agree, 6 people (30%) answered Less Agree, 5 people (25%) answered Disagree, and 1 person (5%) answered Strongly Disagree.

4. Conclusion

The affective domain plays an important role in the learning process both online and offline. The interaction between lecturers and students can run smoothly because one of them is the affective domain. Assessment of the affective domain can improve students' positive performance in learning activities both online and
offline because each item/component has a degree or quality that is interrelated. This is stored neatly in students' memories to always maintain and comply with procedures and ethics in interacting both in class and outside the classroom.

Learning is considered to contribute positively if it is carried out consciously with exemplary modeling between lecturers and students both cognitive, affective, and psychomotor modeling so that they are knowledgeable and can be actualized in real life. Consciously both lecturers and students have rights and obligations. Lecturers are obliged to educate (learning) their students to be smart or get special knowledge for the subjects taught by their lecturers. Students are obliged to carry out lectures in accordance with mutually agreed procedures.

In this digital era, learning cannot be separated from the influence of technology and this is considered a progress in the world of education. Online learning is not yet the main option. This is due to weaknesses, one of which is the availability of the internet network as a connected instrument for learning activities. Face-to-face lectures are still the best because in them there is interaction between the cognitive, affective, and psychomotor domains to be assessed by both lecturers and students without any camera effects.

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