

The Validation of Assessment Instrument of Implementation for 6 *Tugas KKN* in Outcome Based Education (OBE) Curriculum

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Abstract. This research aims to produce a feasible, practical, and effective strengthening model of settling implementation for 6 *Tugas KKN* based on the outcome based education (OBE) in the Faculty of Education Universitas Negeri Medan. This research applied research and development method, specifically using the ADDIE model from Analysis, Design, Development, Implementation, and Evaluation. Students and lecturers, including heads of the Department, become an object for this research in which the data is obtained through observation and questionnaires. Therefore, observation guides and questionnaires for assessment instruments based on the OBE curriculum with the implementation of case method and team based project are used as the main instruments in this research. Data obtained is analyzed using descriptive statistics where Aiken's V formula is implemented to validate the content, construct, and language of the assessment instruments for 6 *Tugas KKN*. Both instruments for case method and team based project has high validity for each aspect of validation including the content, construct, and language used in the instrument.

Keywords: Validity, Assessment Instrument, 6 *Tugas KKN*, Outcome Based Education.

1 Introduction

Since there is a classic belief lately that traditional education framework cannot provide students enough with skills needed in 21st century, educational sociologists then come up with outcome based education [1, 2], a new system where the development of curriculum is based on the "what skills and knowledge do students need to acquire and achieve after they complete the school" [3]. Shortly, these skills and knowledge are first identified ahead the curriculum is created to support the intended skills and knowledge itself [4]. Therefore those skills and knowledge should be written clearly, observable, and measurable in order to measure the student performance after experiencing a set of learning journeys [3] [5] [6].

The expert claims that there are three aspects to be concerned in the implementation of outcome based education (OBE) in the school, namely curriculum based OBE, assessment based OBE, and instruction based OBE [3]. The latest aspect refers to the learning and teaching methods used in the class [3], [7-9]. In the process of learning, Outcome Based Education (OBE) believes that student centered learning could facilitate and empower students to develop intended skills and knowledge they have to acquire after the class.

Therefore, loads of universities these days apply problem based learning, project based learning, and many other constructivist learning approaches [3]. In the Faculty of Education Universitas Negeri Medan, teachers are encouraged to apply case method and project based learning in the curriculum based Outcome Based Education (OBE) [10].

The expert emphasized that the implementation of Outcome Based Education (OBE) is consist of several characteristic, including: (1) The outcome of OBE curriculum must demonstrable in which every outcome should be specifically, clearly, and achievable by implementing operational verbs in bloom's taxonomy; (2) The outcome of curriculum implementation could be in the form of skill as the result of knowledge actualization that learner have been learnt; (3) The outcome of curriculum implementation could be in the form of action which reflected the competency and quality of students as a learner. Moreover, learner can be implementing their learning experiences, which consist of instructional material and instrument/media; (4) The last outcome of curriculum implementation is quite controversial by several expert in which several expert mentioned that the learner perspective, beliefs, attitudes, and mental conditions or psychological states of mind couldn't be measured. However, the others state that the aspect of attitude and values can be measured because this element is part of learning implication which changes by the educational process. [3].

Case method is an instructional model in which cases play an important role in the teaching and learning process [11]. In this kind of instruction, students are involved in the learning process while acquiring the skills and knowledge by solving the provided cases [12]. These cases are real or invented stories that include educational messages, dilemmas, recount events, problems, theoretical or conceptual issues that require students to put their skills on analyzing, decision making, and problem solving [13]. On the other hand, project based learning or commonly known as team based project takes students into real world problems, so that the learning process is not limited inside the classroom, but beyond that. Problem based learning (PBL) is a dynamic method of teaching where teachers are the front liner in laying out the learning experience, assisting students as they collaborate with various peers to find solutions to challenging multidisciplinary challenges, and helping students gain knowledge and skills along the way [14] [15].

The last aspect of Outcome Based Education (OBE) is assessment. Assessment in education is generally defined as “the systematic collection, review, and use of information” to obtain feedback about students’ progress and achievements, the effectiveness of teaching and instruction, and the attainment of course outcomes while achieving the overall goal of improving students’ learning [16, 17]. In Outcome Based Education (OBE), assessment is seen as a tool that can provide feedback on students' attainment of minimum standards required for the workplace [3] [18]. These standards are widely known as outcomes or more accurately learning outcomes in the context of education [19, 20]. The outcomes itself establish what students should be able to demonstrate at the end of the learning period [21]. In this case, students direct their learning efforts toward achieving each 'outcome,' and teachers as the assessors are instructed on what they are supposed to measure through assessments [22]. Moreover, educators can use the evidence generated by the assessments to not only improve their teaching practices by identifying learning needs, but also to meet accountability requirements by providing feedback to stakeholders on the learners' progress in meeting the learning outcomes [16, 23]. There are several types of assessment commonly used in the implementation of Outcome Based Education (OBE), namely: (1) Rubric is a type of assessment that involves certain criteria and indicators to ascertain where students stand in the learning process. Rubrics are generally used to assess the quality of work, clarify goals, help students understand educator expectations, as the reflection tool, inspire students to work even

better, make assessments easier and faster, make assessments more accurate, unbiased, and consistent, provides clear feedback to students, reduces an arguments, and can be used as the feedback in reporting the educational progress to the educational stakeholder for the educational improvements; (2) E-portfolio is a set of work that shows what students have learned during learning process. Recently, the E-portfolio is widely used for educators to efficiently assess the learning process. The E-portfolio is documented electronically, so that the information can be easily accessed, stored, and updated. In addition, e-portfolios allow students to enhance and focus their learning and give them the tools to showcase their skills. Moreover, E-portfolio allows students to improve and enhance their work as well as reflect on their learning [3].

Since the importance of assessment for students' learning outcomes where in this case referred to *6 Tugas KKNI* in the implementation of curriculum based Outcome Based Education (OBE) at the Faculty of Education, it is needed to develop a standard assessment instrument to assess the learning outcomes for *6 Tugas KKNI*. After the development process, the instrument for assessing these learning outcomes should be validated by experts and users [24]. The implementation of *6 Tugas KKNI* has eight academic competencies of Universitas Negeri Medan graduates should possess as described in the university's strategic plan, namely: (1) Competencies in thinking logically and analytically in solving problems; (2) Competencies in working independently or collaboration with others; (3) Competencies in communicating ideas and information orally and in writing; (4) Competencies in improve knowledge and expertise independently; (5) Competencies in mastering and using technology; (6) Competencies in evaluate, analyze data, and create effective solutions in overcoming problems; (7) Competencies in create a plan and organize activities; (8) Competencies in adapting to the environment and work and society.

Validation basically means a process of measuring what is intended to be measured. In short, Ghauri, et al. [25] claims that validity needs to be taken because it explains how well the collected data covers the actual area of investigation [25]. There are several types of validity consisting of face validity, content validity, construct validity, and criterion validity [26]. Based on the previous discussion about the implementation of Outcome Based Learning (OBE) in University by administering of *6 Tugas KKNI*, the developing of specific assessment instrument and rubric is required to analyze the learning result curriculum implementation. Producing a high quality assessment instrument and rubric should be considering the validity and accuracy of the instrument. So, the research question of this study is focusing on analyzing the validity of assessment instruments and rubrics based on the implementation of the Outcome Based Education (OBE) curriculum through the implementation of the case method and team based project in assessing the *6 Tugas KKNI*?

2 Research Method

This study is conducted using a mixed method which involves qualitative and quantitative approach. The study is focusing on analyzing the validity of the instrument of Implementation for *6 Tugas KKNI* in Outcome Based Education (OBE) Curriculum. The Instrument is constructed based on the indicator of six types of task (*6 tugas KKNI*) including Recurring Tasks, Critical Book Report (CBR), Critical Journal Reports (CJR), Ideation, Mini Research, and Project. This task is administered through the learning method namely Team Based Project and Case Method. According to the regulation, the Rector of Universitas Negeri

Medan No. 004 Year 2022 explained that The Team Based Project consists of Regular Tasks, Critical Book Report, Critical Journal Reports, Ideation, Mini Research, and Project. Whereas, the case method consists of Regular Tasks, Critical Book Report (CBR), Critical Journal Reports (CJR), and Ideation. The Instrument validity was tested by analyzing instrument content, construct, and language used. The instruments were administered to 105 respondents which included educational experts, lecturer, and university students. The quantitative data is analyzed by using Aiken V test, while the qualitative data analyzed through the coding method which is grouping the similar information.

3 Result and Discussion

3.1. Assessment Instrument of Implementation for 6 Tugas KKNi

The assessment instrument are constructed based on the six task (*6 Tugas KKNi*) which consist of Regular Tasks, Critical Book Report (CBR), Critical Journal Reports (CJR), Ideation, Mini Research, and Project, as following: (1) The regular tasks is the assignments that are routinely given by lecturers to train certain attitudes, knowledge, and skills; (2) Critical book report (CBR) is describing and analyzing the contents of the book, and provide the students' critical position toward the books content; (3) Critical journal Review (CJR) is reviewing and critically analyzes the findings, strengths, and weaknesses of the research article; (4) Mini research (MR) is simple research activity that consist of research questions, theory, instruments, data collection, data analysis, and conclusions; (5) Ideation is a process of creating an creative idea and promote wild idea; and (6) Project is implementation of certain models, products, or practices. Each KKNi task consists of several assessment aspects which are derived into specific indicators in measuring each assessment aspect.

Table 1. Aspect and indicator of six task (6 Tugas KKNi)

No.	KKNi Task (<i>Tugas KKNi</i>)	Assessment Aspect	Indicator
1	Regular Task	Cognitive	<ul style="list-style-type: none"> a. Accuracy on determining and describing a problem. b. Accuracy on concept selection and implementation on a given problem. c. Accuracy on choosing principles (formulas, rules, arguments) and it applies on the given problem. d. Accuracy on explaining and elaborating the procedure for problem solving. e. Accuracy on providing rationale, examples, problem solving explanation. f. Accuracy on problem solving.
		Skill	<ul style="list-style-type: none"> a. Skills on arranging content's subject report. b. Skills on report presentation. c. Skills on questioning. d. Skills on answering questions.
		Attitude	Communication attitudes; Honesty; Ownership; Cooperative Skills; Toughness; Caring; Disciplines; Preserve; Initiative

2	Critical Book Report (CBR)	Content	<ul style="list-style-type: none"> a. Problem summary, question, and issue b. Considering context and assumption c. Communicating self-perception, hypothesis, or prediction d. Analyzing supporting data and proof e. Using other perspective and hypothesis f. Examining summaries, implication, and consequences
		Construction	<ul style="list-style-type: none"> a. Systematic writing report b. Language
3	Critical Journal Report (CJR)	Content	<ul style="list-style-type: none"> a. Problem summary, question, and issue b. Considering context and assumption c. Communicating self-perception, hypothesis, or prediction d. Analyzing supporting data and proof e. Using other perspective and hypothesis f. Examining summaries, implication, and consequences
		Construction	<ul style="list-style-type: none"> a. Systematic writing report b. Language
4	Ideation	Idea constructions	<ul style="list-style-type: none"> a. Clarity of ideas b. Presentation and organization of content c. Analytical Skills d. Integrating research data with relevant theories or research
		Authoring and communicating idea	<ul style="list-style-type: none"> a. Accuracy on selecting appropriate language used in the scientific report/article b. Skills in the citation of references according to the format of scientific writing c. Presenting assignments orally
5	Mini Research	Research Content	<ul style="list-style-type: none"> a. Novelty and originality b. Composing research question and objective c. Selecting appropriate instrument d. Selecting appropriate data analysis technique e. Linking up research findings with relevant theories and previous studies
		Composing mini research reports/articles	<ul style="list-style-type: none"> a. Accuracy on selecting and using appropriate terms and language in scientific research articles b. Skills on writing citation of references based on scientific writing guideline c. Oral presentation skills

6	Project	Project planning	<ul style="list-style-type: none"> a. Inquiry ability on investigating ideas and questions <ul style="list-style-type: none"> ● Investigating ideas ● Converting question on to research problem ● Composing research objectives and presenting supporting arguments b. Ability on applying conceptual and principle knowledge learned on the relevant science <ul style="list-style-type: none"> ● Detailing the result of previous studies ● Relating literature studies to research variables c. Creative thinking skills on problem solving (fluency, flexibility, elaboration, and novelty of the problem solving strategy) <ul style="list-style-type: none"> ● Project planning (determining target, tools and materials, and learning resource) ● Elaborating the procedure of project planning ● Selecting appropriate method that will be used in the project and based on the research problem
		Project implementation	<ul style="list-style-type: none"> a. Resource management ability on competing task <ul style="list-style-type: none"> ● Selecting quality resource and determining resource quantity ● Designing instruments for data collection ● Applying various data collection technique in the process of data collection
		Project Report	<ul style="list-style-type: none"> a. Explaining report through oral presentation b. Creating scientific report/article <ul style="list-style-type: none"> ● Selecting appropriate language used in the scientific report/article ● Selecting relevant references of research objective ● Writing reference citation correctly ● Selecting appropriate research method and design with research objective ● Conducting data collection, data analysis, and data interpretation ● Integrating research data with relevant theories or research ● Writing the results and recommendation for the future research

3.2. Validation of Assessment Instrument of Implementation for 6 Tugas KKNi

The meaning of validity is measuring what is intended to be measured [26]. Validity is one of the core ideas in research that is used to assess research quality. It specifies how well a methodology, data collection technique, or data analysis is structured to measure study variables or parameters [27]. The assessment instrument validity was assessed through several analysis indicators, including content validity, construction validity, and language used. The validity analysis involves the experts, lecturers and students as individuals who will use the assessment instrument. The data were analyzed by using the Aiken V test (**Table 2**).

Table 2. Validity analysis result of Assessment Instrument of 6 Tugas KKNi

Le ar ni ng M eth od	6 Ta sk s K K NI	Lecturer & Expert						University Students					
		Content		Constructi on		Language		Content		Constructio n		Langua ge	
		V	Criteria	V	Crite ria	V	Criteri a	V	Crit eria	V	Criteri a	V	Cr ite ria
CM	RT	0,83	High	0,90	High	0,84	High	0,71	Medium	0,86	High	0,86	High
	CB R	0,72	Medium	0,89	High	0,84	High	0,71	Medium	0,86	High	0,87	High
	CJR	0,86	High	0,89	High	0,85	High	0,73	Medium	0,84	High	0,87	High
	I	0,83	High	0,89	High	0,89	High	0,73	Medium	0,79	Medium	0,89	High
	RT	0,73	Medium	0,89	High	0,88	High	0,69	Medium	0,82	High	0,81	High
TBP	CB R	0,76	Medium	0,92	High	0,90	High	0,69	Medium	0,83	High	0,83	High
	CJR	0,72	Medium	0,92	High	0,90	High	0,70	Medium	0,80	High	0,81	High
	I	0,73	Medium	0,92	High	0,93	High	0,71	Medium	0,80	High	0,86	High
	MR	0,74	Medium	0,93	High	0,91	High	0,69	Medium	0,81	High	0,86	High
	Proj ect	0,73	Medium	0,93	High	0,90	High	0,69	Medium	0,82	High	0,86	High

The degree to which items in an instrument reflect the content universe to which the measure will be generalized is characterized as content validity measured [25, 27]. The content validity of a test or other measurement tool indicates how correctly it taps into the many parts of the specific construct you are examining. The content validity analysis both Case Method and Team Based Project result shows that the value of $V \geq 0.3$ so that it can be declared content valid. However, the result shows a variety of validity levels. According to lecturer & expert responses, the case method shows that regular tasks, CJR and Ideation have a high level of validity, while the CJR has a medium category. For the Team based project, the result shows that all the KKNi tasks show a medium category of validity level. According to

university students, all the tasks of assessment instruments both in Case method and team based project are in the medium category.

Construct validity relates to how well you transform a construct concept, idea, or behavior into a working and operating reality, also known as operationalization [26]. The Construct validity analysis both Case Method and Team Based Project result shows that the value of $V \geq 0.3$ so that it can be declared construct valid. According to lecturer & expert responses, the case method and Team based project shows that all the KKNi tasks have a high V value. The validity result based on university students shows that all the tasks of team based projects have high V value. While the case method shows Regular Task, CBR, and CJR have high V value while the Ideation has medium V value. The language used in developing instruments is important as communication tools to inform the content and information of the indicator and the purposes of the developing instrument. The language used to analyze both Case Method and Team Based Project results shows the valid result ($V \geq 0.3$) and has high V value ($V \geq 0.8$).

The validity test also provides expert validators suggestions for the improvement of assessment instruments for the six KKNi Tasks through the implementation of case method and team-based projects. Based on the observations and evaluation of the instrument, the validator confirms that the instrument is usable. However, the validator has some concerns that must be addressed by researchers, including: (1) There are several ambiguity in assessment rubrics; (2) The needs on statistic formula to use in scoring the 6 KKNi tasks; (3) the use of simple language in assessment rubrics; (4) typographical.

4. Conclusion

According to the Universitas Negeri Medan regulation in implementing the Outcome Based Learning (OBE) curriculum. The curriculum is focusing on learning outcomes that learners should achieve in order to develop new skills as the preparation in facing global challenges. The outcome based education curriculum is applied through the implementation of specific learning methods that support learner outcome namely Team Based Project and Case Method. The learning method is constructed based on six KKNi tasks (*6 Tugas KKNi*). Consequently, it is necessary to develop an assessment instrument as a guide in assessing KKNi tasks.

The high-quality assessment instrument accurately evaluates what needs to be evaluated. Ensuring the quality of the assessment instrument, the validity analysis is conducted. The validity test involved experts, lecturers, and university students. The validity test result shows that the instrument is valid based on the content analysis, construct analysis, and the language used. As the result shows that the validity test indicates that the assessment instrument and rubric can widely disseminate to assess the learning result of *6 Tugas KKNi* through the implementation of case method and team based project based on Outcome Based Education (OBE)

References

- [1] Faizah, M. (2008). The Use Of Reflective Journals In Outcome-Based Education During The Teaching Practicum," *Malaysian J. ELT Res.*, vol. 4, pp. 32–42. [Online]. Available:

- http://www.melta.org.my/modules/tinycontent/Dos/Faizah_V2.pdf
- [2] Bouslama, F., Lansari, A., Al-Rawi, A. M., and Abonamah, A. A. (2003). A Novel Outcome-Based Educational Model and its Effect on Student Learning, Curriculum Development, and Assessment. *J. Inf. Technol. Educ. Res.*, vol. 2, pp. 203–214.
 - [3] Spady, W. G. (1994). *Outcome-Based Education: Critical Issues and Answers*. doi: 10.1111/cmi.12064.
 - [4] Fitzpatrick, K. A. (1994). Leadership Challenges of Outcome Based Reform. *The School Administrator*, pp. 20–23.
 - [5] M. G. Mohayidin *et al.* (2008). Implementation of Outcome-Based Education in Universiti Putra Malaysia: A Focus on Students' Learning Outcomes. *Int. Educ. Stud.*, vol. 1, no. 4, pp. 147–160, doi: 10.5539/ies.v1n4p147.
 - [6] Davis, J. M. (2003). The Impact Of Disciplinary Alternative Education Programs On. Sam Houston State University. [Online]. Available: <http://dx.doi.org/10.1016/j.jaci.2012.05.050>
 - [7] Custodio, P., Espita, G. N., and Siy, L. C. (2019). The Implementation of Outcome- Based Education at a Philippine. *Asia Pacific J. Multidiscip. Res.*, vol. 7, no. 4, pp. 37–49.
 - [8] Mercado and Lagto, H. (2018). Understanding the Readiness Of Implementing Outcome-Based Education Among Selected Higher Education Institutions In Philippines. *Assumpt. Univ. Interdiscip. Res.*, vol. 3, no. 1, pp. 51–58.
 - [9] De Guzman, M. F. D., Edaño, D. C. and Umayan, Z. D. (2017). Understanding the Essence of the Outcomes-Based Education (OBE) and Knowledge of its Implementation in a Techno ...,” *Asia Pacific J. Multidiscip. Res.*, vol. 5, no. 4, pp. 64–71.
 - [10] Universitas Negeri Medan. (2022). *Rencana Strategies Universitas Negeri Medan*. Medan: Universitas Negeri Medan.
 - [11] Garvin, A. (2003). Making the Case. *Harvard Magazine*, vol. 100, no. 1, pp. 56–65. doi: 10.1185/03007995.2011.628650.
 - [12] Krain, M. (2016). Putting the Learning in Case Learning? The Effects of Case-Based Approaches on Student Knowledge, Attitudes, and Engagement. *J. Excell. Coll. Teach.*, vol. 27, no. 2, pp. 131–153.
 - [13] Thistlethwaite, J. E. *et al.* (2012). The Effectiveness Of Case-Based Learning In Health Professional Education. A BEME Systematic Review: BEME Guide No. 23. *Med. Teach.*, vol. 34, no. 6, pp. 421–444. doi: 10.3109/0142159X.2012.680939.
 - [14] Ceker and Ozdamli, F. (2016). Features and Characteristics Of Problem Based Learning. *Cypriot J. Educ. Sci.*, vol. 11, no. 4, pp. 195–202.
 - [15] Sockalingam, N. and Schmidt, H. G. (2011). Characteristics of Problems for Problem-Based Learning: The Students' Perspective. *Interdiscip. J. Probl. Learn.*, vol. 5, no. 1, pp. 6–32. doi: 10.7771/1541-5015.1135.
 - [16] Ghosh, S., Bowles, M., Ranmuthugala, D., and Brooks, B. (2016). Authentic Assessment In Seafarer Education: Using Literature Review To Investigate Its Validity And Reliability Through Rubrics. *WMU J. Marit. Aff.*, vol. 15, no. 2, pp. 317–336. doi: 10.1007/s13437-015-0094-0.
 - [17] Palomba, C. A. and Banta, T. W. (1999). *Assessment Essentials: Planning, Implementing, And Improving Assessment In Higher Education*. San Francisco: Jossey-Bass.
 - [18] Brady, D. (1997). Assessment and the Curriculum in *Assessment versus evaluation*, Cullingfor. Great Britain: Cassell.
 - [19] Burke, K. (2011). *From Standards To Rubrics In Six Steps: Tools For Assessing Student Learning*. California: Corwin.
 - [20] Scholtz, A. (2007). An Analysis Of The Impact Of An Authentic Assessment Strategy On Student Performance In A Technology-Mediated Constructivist Classroom: A study revisited Andrew Scholtz University of Limpopo, South Africa. *Int. J. Educ. Dev. Using Inf. Commun. Technol.*, vol. 3, no. 4, pp. 42–53.
 - [21] Diller, K. R. and Phelps, S. F. (2008). Learning Outcomes, Portfolios, And Rubrics, oh my! Authentic Assessment Of An Information Literacy Program. *Portal*, vol. 8, no. 1, pp. 75–89. doi: 10.1353/pla.2008.0000.
 - [22] Driscoll, A. and Wood, S. (2007). *Developing Outcomes-Based Assessment For Learner*

- Centered Education: A Faculty Introduction*. Virginia: Stylus Publishing.
- [23] Brindley. (1998). *Outcomes-based Assessment And Reporting in Language Learning Programmes: A Review Of The Issues*, vol. 15, no. 1. doi: 10.1177/026553229801500103.
- [24] Burton, L. J. and Mazerolle, S. M. (2011). Survey Instrument Validity Part I: Principle of Survey Instrument Development and Validation in Athletic Training Education Research. *Athl. Train. Educ. J.*, vol. 6, no. 1, pp. 27–35.
- [25] Ghauri, P., Grønhaug, K., and Strange, R. (2020). *Research Methods In Business Studies*. UK: Cambridge University Press.
- [26] Taherdoost. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *Int. J. Acad. Res. Manag.*, vol. 5, no. 3, pp. 28–36. doi: 10.2139/ssrn.3205040.
- [27] Ahmed and Ishtiaq, S. (2021). Reliability and validity: Importance in Medical Research. *J. Pak. Med. Assoc.*, vol. 71, no. 10, pp. 2401–2406. doi: 10.47391/JPMA.06-861.
- [28] Straub, D. and Gefen, D. (2004). Validation Guidelines for IS Positivist Research. *Commun. Assoc. Inf. Syst.*, vol. 13, pp. 380–427. doi: 10.17705/1cais.01324.