
**ASSESSING CONTENT VALIDITY ON THE CRITICAL THINKING TEST IN
CRITICAL LISTENING CLASS****Daniel Ari Widhiatama¹, Dangin²,**¹Universitas Mercu Buana Yogyakarta[¹daniel@mercubuana-yogya.ac.id](mailto:daniel@mercubuana-yogya.ac.id)²Universitas Mercu Buana Yogyakarta[²dangin@mercubuana-yogya.ac.id](mailto:dangin@mercubuana-yogya.ac.id)

ABSTRACT

Critical thinking is a skill that should be developed to enable students cope with 21st century challenges. Critical Listening class is one of the compulsory subjects in English Language Education Study Program of Mercu Buana University Yogyakarta which goal is to enhance students critical thinking whenever they listen to particular information. However, the instrument to measure the students' critical listening skill has not been developed yet. Therefore, this study aims at developing an instrument to develop students' critical listening skill. The study was started by developing the conceptual definition and operational definition of critical thinking and critical listening. Afterwards, a set of instrument containing of 40 items were developed. Identifying instrument content validity is the first step the focus of this study. The instrument items were then validated by 3 experts. The result of this study showed that 30 items on the instrument was considered valid as they had I-CVI ranged from 0,8-1. The other 10 items were deemed to be invalid since the I-CVI is lower than 0,78. The result of this study encouraged the researcher to revise the instrument and improve the validity of the items.

Keywords: assessment, critical thinking, content validity, critical listening skill

1. INTRODUCTION

Critical thinking has been considered as one of the skills which would make somebody survive in working world. Changwong, Sukkamart & Sisan (2018) & Tosuncuoglu (2018) noted that critical thinking has vital place in education since it is involved as important skill that the societies need to master besides other important skills such as collaboration, innovation, and problem solving skill. Further, Kay (2008) described that critical thinking holds 78% as the most frequently used to cope with the global challenges. Furthermore, critical thinking also encourages students to make decision and judgment based on evidence and objectivity. It triggers students to convey and exchange their idea in the class

(Rezaei, Derakshan & Bagherkazemi, 2011). Hence, thinking about how to embed critical thinking into education should be an urgent agenda.

Among other researchers, probably, Ennis' (1987) definition would suit best to this study who mentioned that critical is a rational, thoughtful process linking both skills and dispositions. Further, in his study, Ennis (1993) conceptualized critical thinking as a reflective action from a person to: (1) assess the credibility of an information source (2) find conclusions, reasons, and assumptions (3) assess the quality of an argument, including its acceptability and reasons, and also the evidence (4) form and defend an opinion on a problem (5) ask a question to clarify an information (6) plan the experiment and assessing the design of the experiment (7) Explain which terms fit the context (8) be open minded (8) try to be willing to seek information (9) conclude something carefully. Heijltjes, Gog, and Paas (2014) with their research claimed that explicit instruction would work well when it is combined with sufficient practice. These elaborations would be the constructs to assess students' critical thinking skill.

Reviewing the importance of critical thinking skill for life, educators together with government nowadays have tried to instill critical thinking skill in various level of education. For example, in English Education Study Program of Mercu Buana University Yogyakarta, critical listening course weighs 2 credits and must be taken by students in semester 3. The purpose of this course is to enable students to receive information from various sources through listening activities and then criticize all forms of information received earlier by presenting it or conveying it orally through several strategies. The tasks given by this course would be a group task or an individual task. These specifications make this class quite challenging. It

In order to assess students critical thinking skills in Critical Listening class, lecturers often use a set of rubric. However, this rubric has been noticed as a free-to-use rubric taken from internet which has low validity level. In addition, the constructs used in the rubric were not appropriately developed. This condition may affect on the output of learning and hence should be fixed soon. Therefore, this study aims at developing a valid instrument in terms of its content to assess students' critical thinking in critical listening classes.

In this study, analyzing information is the core competence of meeting 1 and 2 which was taken as the samples. This core competence has for basic competencies, namely (1) categorizing ideas, fact, thought, and conclusion they get from various sources of spoken information into a certain category with a correct reason; (2) comparing one fact to another

fact they get from various sources of spoken information to see its truthfulness using a correct reason; (3) differentiating a particular fact, thought, question, and argument from various sources of spoken information with a correct reason; (4) explaining a particular fact, thought, question, and argument from various sources of spoken information with a correct reason.

The development stages that this study adopted is Sugiyono's (2010) development model which includes (1) field study and literature study (2) developing test items (3) determining the content validity and construct validity (4) implementing the instrument. Given the limited time the researchers have, this research will only cover the content validation stage.

2. RESEARCH METHOD

The development stages that this study adopted is Sugiyono's (2010) development model which includes (1) field study and literature study (2) developing test items (3) determining the content validity and construct validity (4) implementing the instrument. This research will only cover the content validation stage due to the time constraints.

This study belongs to research and development study (R&D) and based on Sugiyono (2010), there are 4 steps to take. The first step of developing the test is constructing the test specification through field and literature study. In this step, the researcher constructed the conceptual definition and also operational definition as proposed by Gable and Wolf (1993). The conceptual and operational definition were derived from the theory of critical thinking, critical listening and also from the core competence of critical listening class mentioned in the course syllabus.

The second step is developing the test items and competencies which were contained from the conceptual and operational definition. When the two groups of competencies have been stated, then, the matrix was created and each number or item should represent a particular competence. Multiple-Choice with Reason (MCR) test developed by Istiyono (2013) quoted in Mukti and Istiyono (2018) was used since it was deemed to be the most appropriate test form to measure critical thinking. Later, there will be four score categories with the following conditions: Category-1 if the answer is wrong and the reason is wrong; Category-2 if the answer is correct and the reason is wrong; Category-3 if the answer is wrong and the reason is right; Category-4 if answer is correct and reason is correct.

According to the theory of instrument development by Gable and Wolf (1993), in order to develop a valid instrument, which means that the different items of the instrument could measure the targeted constructs, 3 validity types should be identified, namely content validity, construct validity, and criterion-related validity. Due to the time constraints in conducting this study, the researcher would only focus on identifying the content validity of the instrument. Cronbach (1971) in Gable & Wolf (1993, p.96) mentioned that content validity would help researcher to answer a question “To what extent do the items on the test (instrument) adequately sample from the intended universe of content?”

Reporting from the results of content validation is a very crucial stage because it will determine the results of construct validity. In addition, with the presence of experts, the quality of the instruments and their feasibility are expected to be maintained. According to Retnawati (2016), as many as 3 experts are needed in the validation of the research instrument. Furthermore, validator agreement is calculated using the Aiken’s formula. This study employed Aiken’s (1985) content validity analysis technique with the help of Excel program. The following Aiken’s formula shows that V is the degree of agreement among the experts regarding the relevancy level of the item content.

$$V = \frac{\sum s}{n(c - 1)}$$

- V = validity index item
 S = score applied, each rater reduced low score in category used (s= r-lo, → r = rater score choice and lo= low score in score categorizing)
 N = number of rater
 C = number of criterion/rating

The V level ranges from 0 - 1. In this study, the theory from Lynn (1986) is used to determine the validity standard. Lynn believes that for 3 to 5 judges, an excellent I-CVI would be of 1.00 and a minimum I-CVI of .78 for 3 to 10 experts (Polit and Beck, 2006). The rating scale which is used in this study is the one advocated by Davis (1992): 1. *not relevant*, 2. *somewhat relevant*, 3. *quite relevant*, 4. *highly relevant*. In this study, the researcher modifies them into 1: *absolutely irrelevant*, 2: *irrelevant*, 3: *relevant*, 4: *absolutely relevant*.

3. RESULTS AND ANALYSIS

3.1. How is the content validity of the critical thinking test in critical listening test?

This study aims at developing an instrument to measure students' critical thinking skills in critical listening class of English Education Study Program of Mercu Buana University Yogyakarta. The test items were developed through the combination of core competence in meeting 1 and 2 of critical listening class and the indicators of critical thinking skills by Ennis (1993). In order to measure the appropriateness level of the construct of the test, then, a content validity was conducted. Aiken's (1985) theory was used to validate the test items. The critical thinking test on critical listening class which is being developed consists of 40 items which were validated by as many as 3 experts which have competencies and experiences in critical thinking area as suggested by Retnawati (2016). They checked whether the test items were relevant with the critical thinking skills which were proposed by Ennis (1993) and also core competence of critical listening class syllabus. The results of the content validation is described as follow:

Table 1. The Analysis Result of Aiken

No.	I-CVI	Validity
1.	0,91667	Valid
2.	0,9167	Valid
3.	0,833	Valid
4.	0,833	Valid
5.	0,917	Valid
6.	0,833	Valid
7.	0,83	Valid
8.	0,42	Invalid
9.	0,917	Valid
10.	0,9167	Valid
11.	0,833	Valid
12.	0,5833	Invalid
13.	1	Valid
14.	0,5833	Invalid
15.	0,833	Valid
16.	1	Valid
17.	0,5833	Invalid
18.	0,5833	Invalid

19.	1	Valid
20.	0,917	Valid
21.	0,8333	Valid
22.	0,5	Invalid
23.	0,833	Valid
24.	0,8333	Valid
25.	0,8333	Valid
26.	0,8333	Valid
27.	0,5	Invalid
28.	0,5833	Invalid
29.	0,5	Invalid
30.	1	Valid
31.	1	Valid
32.	1	Valid
33.	0,8333	Valid
34.	0,8333	Valid
35.	0,8333	Valid
36.	0,8333	Valid
37.	0,8333	Valid
38.	0,5833	Invalid
39.	0,8333	Valid
40.	0,9167	Valid

Table 1 shows that the range of the value of the instrument is from 0,42-1. Based on Lynn (1986), an I-CVI would be considered as valid if it ranges from 0,78 – 1. An I-CVI which has lower value than 0,78 would be considered as invalid. In this validation process, as many as 10 items were deemed to be invalid because their I-CVIs were lower than 0,78. These 10 invalid items consist of 1 item had CVI of 0,42. There were as many as 9 items which had I-CVI of 0,5. 30 items remained valid which values ranged from 0,8 – 1. By these results, there should be some revisions on the instrument and some invalid items might be replaced or removed from the instrument.

4. CONCLUSION

Developing a set of educational instrument might need various steps. Identifying content validity of critical thinking skills on critical listening class might be one of the step which has been done in this study. Based on the research results results, some items on the

instrument have not met the content validity standard. Therefore, the researchers would try to improve the test quality by replacing the invalid items and conducting different validation stage, such as construct validity assessment. Besides, the researcher hopes that a test on reliability could also be conducted in the near future to gain a ready-to-use instrument to measure students' critical thinking in critical listening class.

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