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Content Validity and Reliability of Expert Assessment PLP Guide Book Based on Technological Pedagogical and Content Knowledge

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Abstract

Research purpose to determine the content validity and reliability of agreement among experts in assessing the Technological Pedagogical and Content Knowledge on Introduction to the school field (PLP) Guidebook. The research method uses a development model. TPACK based handbook tested by 3 experts. Validity analysis was carried out using Aiken's V analysis and Reliability using Interclass Consistency. The results of the study prove that the manual with v value of 0.95 is declared valid content with high criteria and an ICC value of 0.517 is declared an expert in assessing. The conclusion of this research is that the content is valid and the experts are appropriate in conducting the assessment. Suggestions for the TPACK based PLP guidebook can be used as guidelines for implementing PLP for lecturers, tutors and students.

Keywords
validity; reliability; Tpack; PLP; guide book

I. Introduction

Teachers and the community understand that to become a teacher one must have certain qualifications and competencies according to the field. In Indonesia, the obligation to have qualifications and competence as a teacher already has a clear legal basis. An explanation of the legal basis is contained in the National Education System Law Number 20 of 2003 and Law Number 14 of 2005 concerning Teachers and Lecturers. Teachers who have qualifications are shown with a formal educational background. In addition to qualifications, teachers must also have competencies that show their abilities. Qualifications and competencies are obtained from educational institutions.

According to Astuti et al (2019) Education is an obligation of every human being that must be pursued to hold responsibilities and try to produce progress in knowledge and experience for the lives of every individual. Education is one of the efforts to improve the ability of human intelligence, thus he is able to improve the quality of his life (Saleh and Mujahiddin, 2020). Education is expected to be able to answer all the challenges of the times and be able to foster national generations, so that people become reliable and of high quality, with strong characteristics, clear identities and able to deal with current and future problems (Azhar, 2018).

Higher education institutions provide a number of learning experiences so that students have a number of competencies as subject learning outcomes (CPMK) for each course. The purpose of education in the future is to educate students to be able to think and solve problems by providing a rational, critical, and abstract thinking learning experience in schools. After the required number of learning outcomes at one level have been met, students will gain qualifications, such as undergraduate education qualifications. There are

several learning experiences, such as face-to-face lectures, seminars, and field observations. One of the programs that students need to follow is the school field introduction program (PLP).

The School Field Introduction Program (PLP) provides an opportunity for educational students to gain experience related to schooling. The School Field Introduction Program (PLP) is expected to provide students with a number of learning experiences that shape competencies related to school management and administration, the duties and responsibilities of a teacher. The learning experience gained by students is expected to build a competency construct of teacher professionalism, including the professionalism of an Early Childhood Education teacher. Early Childhood Education teachers must pay attention to four aspects of competence that need to be developed, namely pedagogic, professional, social and personality competencies. These four competencies will affect teacher performance. Qualified Early Childhood Education teachers have high professional competence in carrying out their duties.

Personality competence includes the ability to behave and behave in accordance with the psychological needs of the child. Teachers are able to present themselves as individuals who have noble character. This behavior is related to behavior that makes other people feel safe, comfortable. The intended behavior includes loving children sincerely, being patient, calm, always cheerful, attentive, sensitive, responsive and humorous towards a child's behavior.

Professional competence is related to the ability to understand the stages of child development, child growth and development, the ability to provide educational stimulation, care and protection, and the ability to build cooperation with parents in the education, care and protection of children. In addition, this competence is demonstrated in the form of the ability of educators to understand the continuity of the developmental level of children aged 0-6 years; understand the standard level of achievement of child development, and be able to communicate the program of development and care institutions to parents and increase parental involvement in programs at PAUD institutions.

There are four competencies that a teacher needs to have, namely pedagogical competence, personal competence, professional competence, and social competence. Pedagogic competence is related to the ability to plan activities for education, care and protection programs, carry out processes and carry out assessments of the processes and outcomes of education, care and protection. The ability shown by the teacher in the form of the ability of educators in preparing annual, semester, monthly, weekly and daily activity plans; determine play activities that support the level of achievement of children's development; carry out assessment activities in accordance with predetermined methods; manage the results of the assessment; use the results of the assessment for various educational purposes; document the results of the assessment.

Social competence is the ability of teachers to adapt to the environment and communicate effectively with students and parents. This competence is demonstrated through the ability of educators to adapt to peers, adjust to the surrounding community, accommodate students, parents, peers from various cultural and socio-economic backgrounds, communicate empathetically with parents of students; and communicate effectively with students, both physically, verbally and nonverbally. The competencies possessed by the teacher will affect the teacher's performance, namely, beliefs and values; Skills; experience; personality characteristics; emotional problems; and intellectual ability.

The implementation of PLP courses is carried out with the principle of coherence between curriculum components. Coherence in the content of the teacher education curriculum means that there is a link between groups of subjects in the field of study

(content knowledge), groups of subjects related to general pedagogical knowledge that applies to all fields of study (content specific pedagogical knowledge), knowledge and skills in curriculum development (curricular knowledge), knowledge and skills in the selection and development of assessment tools (assessment and evaluation), and knowledge of educational contexts.

Introduction to the School Field (PLP) is expected to be able to develop a mental attitude in the form of commitment from students as prospective members of the profession to always realize and improve their professional quality. the professional competence of PAUD teachers who are ready to be further developed and improved through the professional education program (PPG). Commitment is expressed as an engagement often without a written agreement. Everyone is required to have a high commitment to their professional duties. With this commitment, a person will try to do the best for his profession. If the teacher has a commitment to develop self-competence continuously, then the processes of planning, developing, implementing, managing, and evaluating learning programs are believed to be able to be carried out in accordance with current demands.

Professionalism is a term that refers to a mental attitude in the form of commitment from members of a profession to always realize and improve their professional quality. The quality of one's professionalism is supported by several competencies, namely 1) the desire to always display behavior that is close to ideal standards, 2) always improve and maintain the professional image, 3) always pursue professional development opportunities that can improve and improve the quality of knowledge and skills, 4) pursue quality and aspirations in the profession. Thus, the professionalism of early childhood educators is the attitude of early childhood educators who strive to improve their abilities professionally in educating early childhood.

The competencies and indicators of PAUD teachers that have been stated in the previous section are related to the seven dimensions of teacher professional competence proposed and these are closely related to how students perceive professional development activities. The competencies possessed by PAUD teachers must at least be in accordance with applicable standards. Some teachers in the field, it turns out that they are still few who improve competence.

The results of research by Harris, Mishra, and Koehler (2009) state that Technological Pedagogical and Content Knowledge (TPACK) as an alternative professional development approach that has authentically succeeded in helping teachers and prospective teachers in integrating technology. TPACK also has an important role and a strong influence on the ability of prospective teacher students in preparing learning tools. The results of other studies show that TPACK plays an important role in the development of teachers' professional skills.

Validity comes from the word validity which means how far the accuracy and accuracy of a measuring instrument in carrying out its measuring function. The product being tested can be said to have high validity when it performs its function. Valid according to Grounlound in Sukardi (2009:30) can be interpreted as the accuracy of interpretation resulting from test scores or evaluation instruments.

Validity will show the support of empirical facts and theoretical reasons for the interpretation of test scores or scores of an instrument, and is related to the accuracy of measurement. The instrument is said to be valid if the instrument can accurately measure what it wants to measure. Validity comes from "accuracy" with the measuring instrument. Valid instruments can produce valid data as well. Messick states that validity is an integrated evaluative policy about the extent to which empirical facts and theoretical

reasons support the adequacy and suitability of inferences and instrument actions based on test scores or scores of an instrument. Based on several opinions, it can be concluded that the validity of the test is the accuracy and accuracy of the test instrument as a tool in measuring which should be measured with the support of empirical facts and theoretical reasons based on test scores.

Validity estimation is done by using correlation technique. However, not all validity approaches require statistical analysis. Different types of validity require different methods of analysis. Validity types are divided into Content Validity (Content), Construct Validity (Construct), and Criterion-related Validity. Validity based on criteria is divided into Concurrent validity and Predictive validity.

Face validity and logical validity need the help of other parties. Common sense decisions regarding the alignment or relevance of items with the purpose of measuring the scale cannot be based solely on the question writer himself, but also require an assessment agreement from several competent assessors (expert judgment).

Reliability is translated from the word reliability. Measurements that have high reliability are measurements that can produce reliable data. Reliability has various other names such as trust, reliability, constancy, consistency, stability, and so on but the main idea in the concept of reliability is the extent to which the results of a measurement can be trusted.

Reliability refers to the reliability or consistency of the measurement results, which means how high the accuracy of the measurement. An assessment instrument item is said to be reliable if it is used to measure at different times the results are the same. Reliability can also be interpreted with constancy or stability. Based on the definition of several experts, it can be concluded that the reliability of the test is the stability of the score of the measurement results which has the accuracy of measurement even though the assessment is carried out repeatedly.

The measurement results are reliable if in several measurements of the same subject group relatively the same results are obtained, if the aspects measured in the subject have not changed. Measurement in education cannot be directly carried out on the characteristics or characters to be measured. This characteristic or character is abstract, which can be measured through an indicator. This makes it difficult to obtain a stable measuring instrument to measure a person's characteristics. This stability is called reliability. Reliability can be seen based on measurements, which are in the form of a value, which can be done with statistical calculations. This value is usually called the reliability coefficient. Measurement results can be trusted if in several measurements of the same subject group, relatively the same empirical results are obtained, if the aspects measured in the subject have not changed.

The reliability between raters consists of two types, the agreement correlation coefficient test between raters from Kapan and the intraclass correlation coefficient test (Intraclass Correlation Coefficients), the Inter-rater reliability test when used when there are 2 raters while the ICC inter-rater reliability test is used if the rater is more than 2 persons. This study uses 3 raters so that using the correlation coefficient between classes, the ICC shows a comparison between the variations caused by the measured attributes with the overall measurement variation.

The instrument reliability test using the observation sheet, the most appropriate formula is using Inter Rater Reliability, reliability involving raters is usually called an inter rater agreement or inter rater reliability. If in the case of self-report the reliability is shown by the internal consistency involved between one item and another having a high correlation, then in the case of reliability between raters being tested for consistency is the

rater, so the position of the item is replaced with the position of the person (rater), to assess reliability. between two or more observers, as well as test-retest reliability. In this sub-chapter, inter-rater reliability is calculated using Inter rater Reliability showing the comparison between the variation caused by the measured attribute and the overall measurement variation, to calculate reliability.

II. Research Method

The research method is a development research approach. The analysis used is statistical analysis to test the content validity and reliability of the experts' interclass correlation coefficient. There are 3 experts who assess the PLP manual. The instrument used is an expert assessment questionnaire with 20 questions. Content validity was analyzed using Aiken's V formula with category > 0.3 and ICC value > 0.5.

III. Results and Discussion

The results of the expert assessment were scored and analyzed using content validity analysis using the Aiken's V formula. The results of the validity analysis showed the following results:

Table 1. Results of Content Validity Analysis

Indicator	V	Criteria	Indicator	V	Criteria
1	1,00	High	11	0,83	High
2	1,00	High	12	1,00	High
3	0,92	High	13	1,00	High
4	1,00	High	14	1,00	High
5	1,00	High	15	1,00	High
6	0,83	High	16	1,00	High
7	0,92	High	17	1,00	High
8	1,00	High	18	1,00	High
9	1,00	High	19	1,00	High
10	0,75	Medium	20	1,00	High

Based on Table 1 shows that all indicators are declared valid with several criteria. As many as 19 indicators are included in the content valid category by experts and one indicator is in the medium category. In general, the content validity of the expert assessment is 0.95 in the high category.

The expert's assessment of the TPACK-based PLP Handbook shows that it is content valid. The PLP manual has complied with in terms of content, construction and language. The content validity of a manual can indicate the suitability of the manual with the material. The content in the manual must be appropriate and include appropriate material and the purpose for which the manual is made. Content validity through rational analysis of common sense decisions from expert judgment to see their representation and relevance to the purpose of developing the guidebook.

The development of the TPACK-based PLP manual was continued with the ICC reliability test using the SPSS version 24 application. Based on the analysis, the results are shown in Table 2.

Table 2. ICC Analysis Results

Cronbach's Alpha	Intraclass Correlation Coefficient	N of items
0,763	0,517	3

Table 2 shows that the estimated reliability of expert judgment using the ICC of 0.517 is greater than 0.5 indicating that the experts are appropriate in assessing the PLP guidebook based on Technological Pedagogical and Content Knowledge (TPACK).

Azwar (2003: 176) states that reliability is one of the main characteristics or characteristics of a good measurement instrument. Reliability and validity are measures of the credibility of the measurement (Kothari, 1990; Mercer, 1991). A reliable measuring instrument is not necessarily valid. But a valid measuring instrument must be reliable. Reliability is a necessary but not sufficient condition for measurement validity. A good measuring instrument (instrument) must measure correctly (valid) and consistent (reliable, reliable). There are two aspects of measuring instrument reliability: (1) Internal consistency; and (2) Stability. Consistent Reliability and validity are measures of the credibility of the measurement (Kothari, 1990; Mercer, 1991). A reliable measuring instrument is not necessarily valid. But a valid measuring instrument must be reliable. Reliability is a necessary but not sufficient condition for measurement validity. Meanwhile, Stability is a reliable measuring instrument showing internal consistency and stability when used to measure research subject variables under identical conditions. Stability (also called reproducibility) measuring instruments include: (1) Measurement on two occasions separated by different time intervals (testretest reliability); (2) Measurements carried out by the same measurer on two different occasions (intra-observer reliability); and (3) Measurements made by two or more different metrics (inter-observer reliability) on the same occasion.

There are a number of reliability measures that can be used to measure the degree of stability of the measuring instrument. The selected reliability measure should be in accordance with the scale of the variable being measured. If the measurement is carried out on two occasions regarding continuous-scale variables, then reliability is assessed using the Pearson or Spearman correlation. If the measurement is carried out on more than two occasions, or more than two measures, involving a continuous scale variable, then reliability is assessed using intra-class correlation (ICC).

Interclass Correlation Coefficient (ICC) is the reliability used for rating results from observations of several raters (Shrout & Fleiss, 1979). Intraclass correlation coefficient (ICC) is used to assess reliability between two or more observers, as well as test-retest reliability. In essence, the ICC is the ratio between the variance between groups and the total variance. The same thing was also conveyed by Mardapi (2012).

To find out the ability of a computer system that can help score essay answers, the device used needs to be tested first. The main test is to calculate the Intraclass Correlation Coefficient (ICC). This is the goal of the ICC. Based on Powers, Escoffery & Duchnowski (2015), comparing the results of people's scores with computer results is the most frequently used way to validate. Meanwhile, Wuensch, (2014) stated that calculating ICC is one solution to determine the reliability of the scoring system by computers.

It can be concluded that reliability is a necessary but not sufficient condition for measurement validity. Intraclass Correlation Coefficient (ICC) is a reliability used for rating results from observations of several raters (Shrout & Fleiss, 1979). If the measurement is carried out on more than two occasions, or more than two measures,

involving a continuous scale variable, then reliability is assessed using intra-class correlation (ICC).

IV. Conclusion

The School Field Introduction (PLP) handbook that has been prepared is analyzed for content validity based on expert judgment. The experts assessed the material, construction and language aspects of the School Field Introduction manual. The results of the content validity analysis stated that the School Field Introduction (PLP) guidebook was content valid. The results of the analysis of the suitability of the experts in providing an assessment also show that the experts are appropriate in assessing when compared to other experts and are declared reliable.

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