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## Reliability, Validity and Fairness of Interviews for Teaching and Learning Project in Quality Early Childhood Care and Education: Preliminary Study

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### Abstract

This paper aims to identify *reliability, validity and fairness of interviews* in Project Determining Contributing Factors of Quality Early Childhood Care and Education. Three types of interview apply in this project encompasses individual interview, group interviews and focus group interview. Individual interview involves government officer, early childhood care and education expert, educational, researcher and non-governmental organization. Group interviews involves government officer, operator and supervisor. Focus group interview involves operator, supervisor, child care provider, teacher, parent and guardian. Interview guidelines for teaching and learning in this project has five section. The *first section* of the *interview* focus on child care provider's or teacher roles and responsibilities. Second section focus on childcare provider or teacher and children interaction. Third

section focus on environment, facilities and resources. Fourth section focus on teaching strategies and learning management. Fifth section focus on observation and assessment. Preliminary study of interview transcript's analysis consist of Phase I and Phase II. Phase I involved 23 transcripts with 9 group of respondents meanwhile Phase II involved 33 transcripts with 8 group of respondents. Phase I and Phase II interview transcripts analysis with paired comparison to produce nodes in NVIVO. After paired comparison, intra and inter group comparison implement to produce nodes and maps. It is hoped that these process of interview can be identify reliability, validity and fairness of Interviews in project.

**Keywords:** *Reliability, Validity, Fairness, Teaching and Learning, Early Childhood*

## Introduction

In Malaysia, the holistic early years curriculum for early childhood care and education (ECCE) called the Kurikulum PERMATA was implemented for babies, infants, toddlers and young children ages up to 4 year old (PERMATA, 2013) while the preschool curriculum called the Kurikulum Standard Prasekolah Kebangsaan (KPM, 2016) was implemented for young children ages 4 to 6 years. This preliminary study aims to identify *reliability, validity and fairness of interviews in* Project Determining Contributing Factors of Quality ECCE through individual, group and focus group interview.

## Background

The ECCE programmes is a universal *and* has become the norm in Malaysia. ECCE programmes welcome babies, infants, toddlers and young children and providing a platform to children's unleash potentials and talents (PERMATA, 2013; KPM, 2016). Nowadays, various government agencies such as Ministry of Education; Department of National Unity and Integration, Prime Ministry Department; PERMATA Division, Prime Ministry Department; Ministry of Rural and Regional Development; Terengganu Family Development Foundation, Terengganu Islamic Foundation and Perak Islamic Department provide ECCE program. Besides, non-governmental organizations, association and private sector also concerned about quality ECCE programmes.

In this study, individual interview involves government officer, early childhood care and education expert, educational, researcher and non-governmental organization. Group interviews involves government officer, operator and supervisor. Focus group interview involves operator, supervisor, child care provider, teacher, parent and guardian.

## Problem Statement

The problem encountered by the data collection of interviews involving multiple data is incomplete and only in general and individually. Furthermore, the data obtained are also not comparable in terms of pair, intra group or inter group comparison. According to Denzin and Lincoln (2003), reliability is important to note whether the questions were appropriate and whether there were any methodological shifts and how were they identified, explained and supported. According Merriam (2001) and Guba and Lincoln (1989), validity in qualitative studies is concerned with the degree to which the individuals studied and what they do and say, are representative of individuals to whom results might be generalised. However, if the interview data analysis is made in detail, it is hoped that it will gain high *reliability, validity and fairness of interviews*. Data can also be interpreted properly and well organized. Sample diversity contributes to data input variation that can provide enough insights to identify Determining Contributing Factors of Quality ECCE.

## Literature Review

The literature review includes *reliability, validity and fairness* of *interviews and* teaching and learning the factors contributing to the development of Malaysia's ECCE quality in this project.

### **Reliability, Fairness and Validity of Interviews**

Criteria for selecting *reliability, validity and fairness* of qualitative data consist member or researcher checking; rigorous; triangulation; filing management and agreement between assessors. Reliability of interview important to note whether the interview questions were appropriate and how researchers to identified, explained and supported the study. For interview, reliability can be achieved by tabulating categories if a researcher chooses and important to bring rigour for interview. The reliability of data depends on consistency of source, analysis and interpretation to study outcomes. In other words, the best way to assure that interview data is reliable is to have well-validated procedures. Researchers have reliably examined the data records, that researchers can count on locating and consistency using the categories created, responsibility storing and using all information available, and that the processes of questioning and combining the data in explanations are transparent and well documented (Creswell, 1998; Denzin & Lin; Silverman, 2005).

Validity of interview is another word for truth in this study. The validity of findings in this study include using the refutability principle; using the constant comparative method; doing comprehensive data treatment, or incorporating all cases into the analysis; searching for deviant cases, that is including and discussing cases that do not fit the pattern; and making appropriate tabulations (Silverman, 2005; Jamariah & Loy, 2017). Two types of validity in research includes internal validity and external validity. **Internal validity is defined** as improved through long engagement with the respondents in data collection. Respondents had a chance to return and add any new or important information during interviews. **External validity** is achieved through a 'thick description' of the research process to allow a reader to see if the results can be transferred to a different setting (Guba & Lincoln, 1989; Merriam, 2001). In summary, the important elements to be considered in the evaluation of interview data, included internal validity, external validity, reliability and fairness elements. After considering these elements, the researcher identify the method and technique of data collection to be used in this study.

In this study, *reliability, validity and fairness* involving pair, intra group dan inter group comparison. Preliminary study of interview transcript's analysis consist of Phase I and Phase II. Phase I involved 23 transcripts with 9 group of respondents meanwhile Phase 2 involved 33 transcripts with 8 group of respondents. Phase I and Phase II interview transcripts analysis with paired comparison to produce nodes in NVIVO. After paired comparison, intra and inter group comparison implement to produce nodes and maps. It is hoped that these process of interview can be identify reliability, fairness and validity of interviews in project.

### **Teaching and learning and Quality in ECCE**

The factors contributing to the development of Malaysia's early childhood education quality model were determined based on (i) teacher and child interaction; (ii) the indoor and outdoor environment; (iii) Learning activities. Interaction refers to actions that occur when two or more parties influence each other (Beaty, 2010; Nordin Mamat, Nor Mashitah Mohd Radzi, Loy Chee Luen & Sophia Md Yassin, 2017). These active actions build relationships or provide opportunities for two or more parties to communicate and exchange their views. Interactions exist in the form of signals, symbols or languages of two or more parties can be understood interaction through the process of discussion

and engagement in an activity (Gordon & Browne, 2010; Nordin, 2012). The indoor and outdoor environment of TASKA and TADIKA must be comfortable and safe. It includes secure building features and class structure, clean, and fresh environment; safe and secure landscape and pedestrian path for infants, children, educators and parents or guardians. In addition, facilities for children with special needs should also be provided (Morrison, 2004; Gordon & Browne, 2010). Learning activities should be based on the needs, abilities of the baby, toddler, and preschool children's background and development. Childcare providers or teachers should provide an activity space, organizing physical needs in the classroom to carry out learning activities. In addition, Childcare providers or teachers also need to provide activity and teaching planning as well as the activities and teaching and learning activities that are suitable for children at TASKA and TADIKA levels (Morrison, 2004; Beaty, 2014; 2016).

### **Interview's Data Analysis Procedure**

Analysis of interview's data in qualitative research proceeds along with data collection and is the process of bringing order, structure and interpretation to the mass of collected data (Patton, 2002). The coding and analyses of this study followed methodological guidelines developed by prominent qualitative researchers (Bailey, 2007; Corbin & Strauss, 2008).

The data from the transcriptions of interviews were discussed with the respondents. Data from interviews were read carefully. A tentative coding scheme was developed, consisting of categories and sub-categories. A few categories of constructs to guide the on-going coding of interviews were set. In developing codes and categories, the analyst must figure out what things fit together and begin to look for recurring regularities in the data which reveal patterns that can be sorted into categories. In this process, the researchers codes all statements that are relevant to the coding scheme, developing and guarding against selective attention to points of particular interest. As the coding progressed, a few additional categories were identified and added to the code guide, using the same process until the coding process was completed (Patton, 2002; Nordin, 2012).

### **Coding Data**

All interview transcripts, were coded manually, and the qualitative software package NVivo 11 (QSR NUD\*IST Vivo) was used for organising non-numerical data. In the first stage, the data were coded manually, identifying categories and properties of the interview data. The tape recorded interview data were transcribed into texts. The data produced was textual in character, thus producing voluminous paperwork which was analytically demanding and which entailed a very long and time-consuming process, sorting them manually one-by-one and then keying them into the Nvivo programme.

An open coding strategy was used to discover major themes and identify meaningful pieces of information. The purpose of this process was to identify as many themes and categories that were related to the phenomenon as possible, and to identify categories related to the research questions (Corbin & Strauss, 2008).

### **Applying Software Package NVivo 11 (QSR NUD\*IST Vivo)**

All transcripts data were then entered into the NVivo programme, a software programme which is considered to be a highly efficient and reliable tool in qualitative analysis of data (Bailey, 2007). This



programme facilitates data storage, coding, retrieval, comparing and linking and offers the ability to manage and analyse data (Patton, 2002). Initially, after used this programme, it was easier to review the transcript data documents using line-by-line analysis in order to develop categories or patterns, which are called nodes in this software. During this process, line-by-line coding sharpens the use of sensitising concepts; that is, those background ideas that inform the overall research problem. It leads to the refining and specifying of any borrowed existing concepts, categories and themes. The coded themes were based on recurring ideas, issues or key phrases emerging across interviews. In NVivo, these nodes stored the references systematically so that they could be retrieved easily. As the interview transcripts were processed, new nodes appeared as new ideas, topics and categories evolved. At the end of the process, every sentence was allocated to a node or a child node (a property of a node) which was then further explored, organised, changed or removed.

Chart 1 Types of Interview

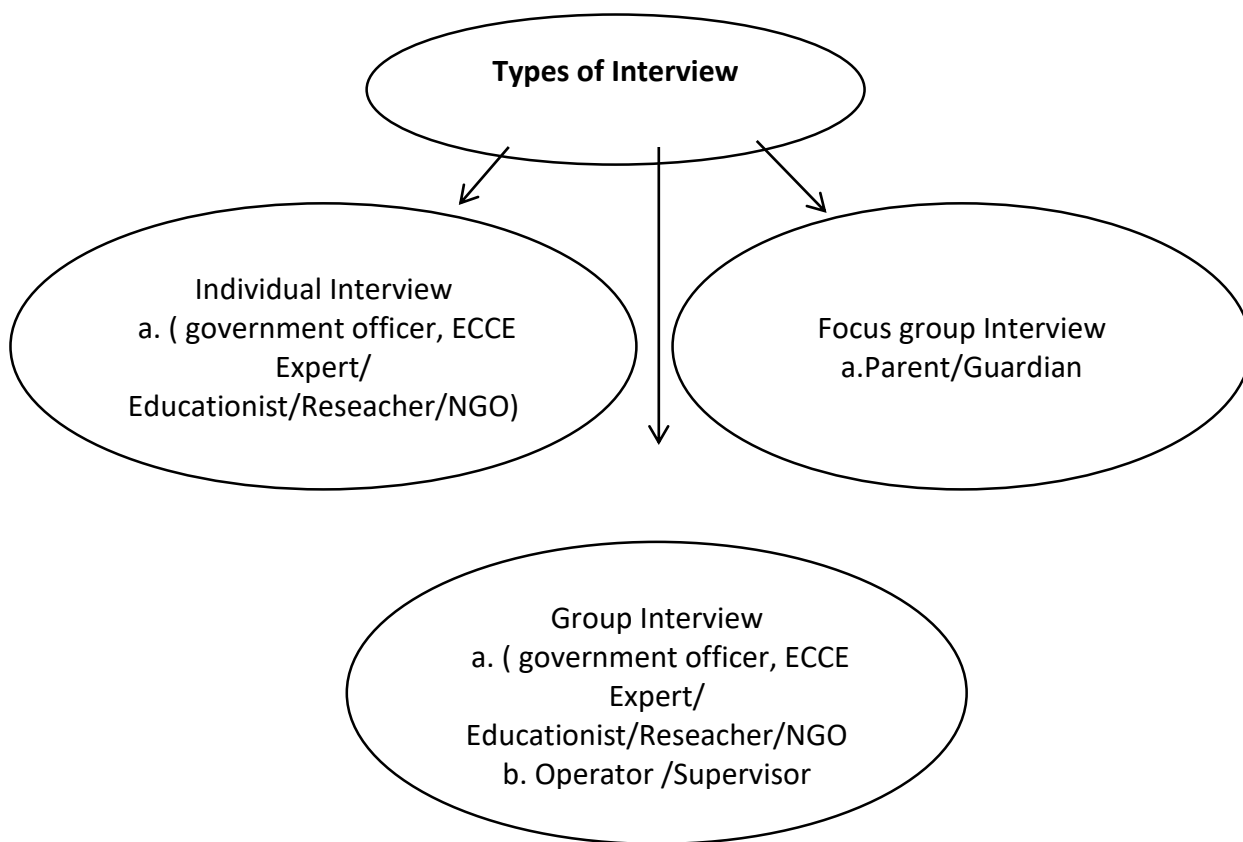


Chart 1 shows types of interview encompasses individual interview involves government officer, early childhood care and education expert, educational, researcher and non-governmental organization. Group interviews involves government officer, operator and supervisor. Focus group interview involves operator, supervisor, child care provider, teacher, parent and guardian.

Chart 2 Interview’s Transcripts Analysis Phase I

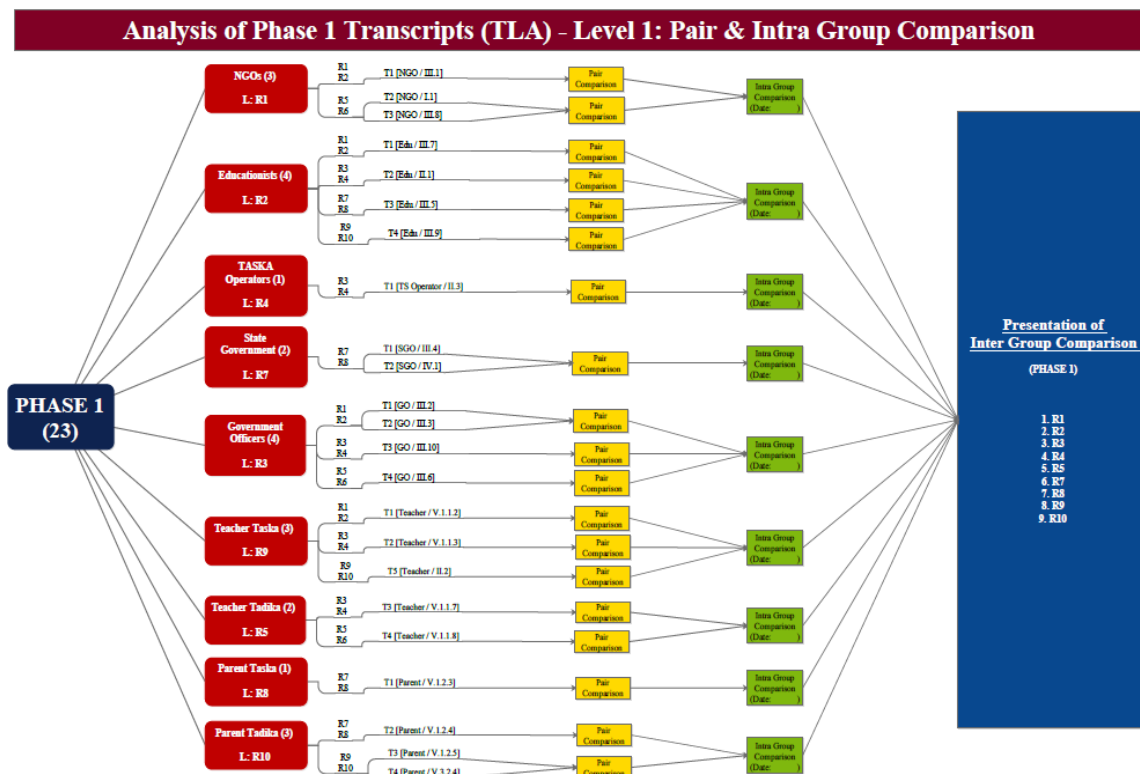


Chart 2 shows interview's transcripts analysis Phase I using Nvivo 11 software. Transcripts are divided and each transcript is read and analyzed by two researchers.

There are 9 categories of respondents (NGO, Educationist, Operator, Government Officers, State Government, TASKA's Teacher, TADIKA's Teacher, TASKA's Parent for Phase 1 interview analysis. For each category of respondents, a leader of reaseachs has been appointed to ensure the process of transcript analysis for each category of respondents goes smoothly.

This reseach has 10 researchers (P1-P10) divided into 5 groups (K1= P1 & P2; K2= P3 & P4; K3= P5 & P6; K4= P7 & P8; K5= P9 & P10) and 23 transcripts for Phase I. 23 transcripts (T1-T23) are divided into 5 groups. Meab that 3 groups of K1, K2, K4 get 4 transcripts and 2 groups of K3 and K5 got 5 transcripts.

Transcripts obtained by K1 are V.1.1.2, III.1, III.2, III.3 dan III.7; transcripts obtained by K2 ialah V.1.1.3, V.1.1.7, II.1, II.3 and III.10; transcripts obtained by K3 are V.1.1.8, I.1, III.6 and III.8; transcripts obtained by K4 are V.1.2.3, V.1.2.4,III.4, III.5 and IV.1; and transcripts obtained by K5 are V.1.2.5, V.3.2.4, II.2 and III.9.

**Pair Comparison.** Pair comparison is done by 2 researchers in each group for each respondent. Each researcher receives a transcript to read and key in Pair Comparison category or subcategory need to be key in with research assistant need to be made with research assistant and each project to produce nodes in NVIVO. The nodes generated on the second and subsequent times are additional nodes ready there is an analysis of Phase I interview transcripts according to each category of respondents.

**Intra group comparison.** If each respondent has more than one group making analysis of the transcript of the interview, intra group comparison will be held to compare the findings received for the group of respondents.

**Inter group comparison.** Lastly, after each intra group comparison is made which represents every interview respondent, intra groups comparison findings are taken to the inter comparison level that

represents Quality of ECCE in Malaysia. At this stage, a combined total of interview findings for teaching and learning focused Phase I.

Chart 3 Interview's Transcripts Analysis Phase II

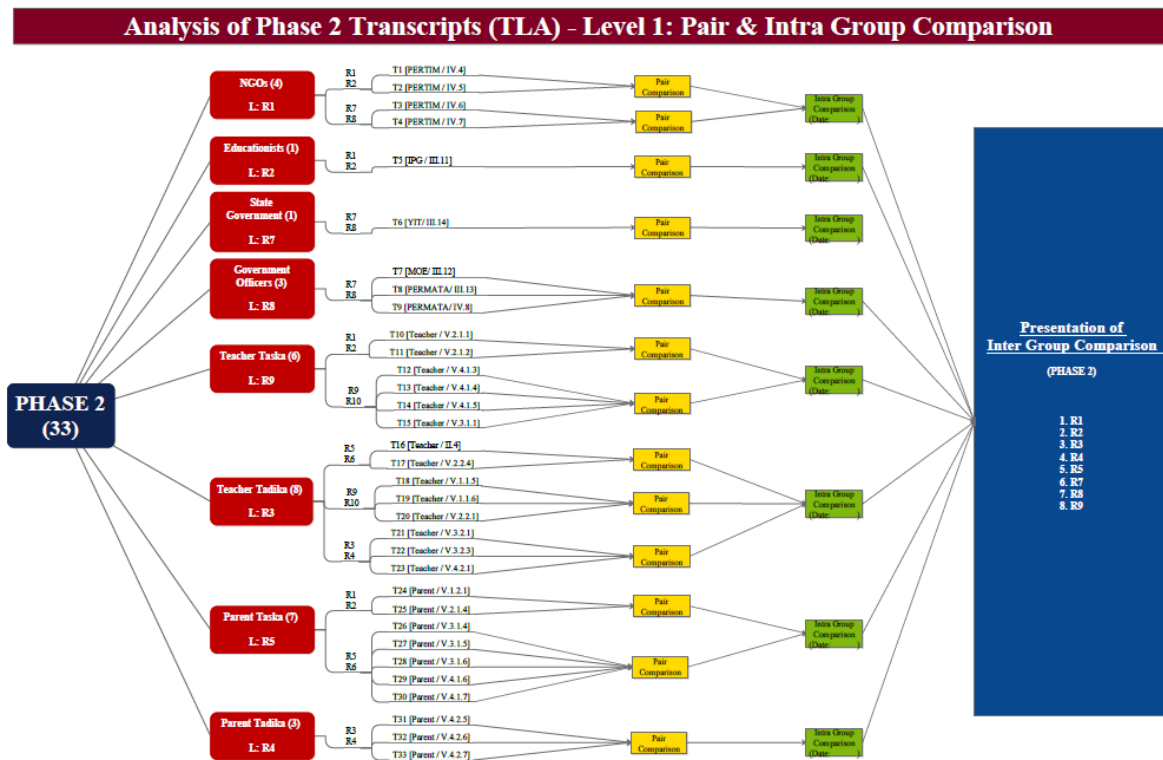


Chart 3 shows interview's transcripts analysis Phase I using Nvivo 11 software. Transcripts are divided and each transcript is read and analyzed by two researchers.

There are 8 categories of respondents encompassess NGOs, Educationist, Government Officers, State Government, TASKA's Teacher, TADIKA's Teacher and TASKA's Parent for each category of respondents, a chairman has been appointed to ensure that the transcript analysis process for each category of respondents goes smoothly.

Normally, the leader appointed for each respondent is the chairman of the Phase I interview transcript analysis. For example:, this study has 10 researchers (R1-R10) divided into 5 groups (G1= R1 & R2; G2= R3 & R4; G3= R5 & R6; G4= R7 & R8; G5= R9 & R10) and R3 transcripts for Phase II. R3 transcripts (T1-T23) are divided into 5 groups. Mean that 3 groups G1, G3, and G5 get 7 transcripts and 2 groups G2 and G4.

Transcripts obtained by G1 are IV.4, IV.5, III.11, V.2.1.1, V.2.1.2, V.1.2.1 and V.2.1.4; transcripts obtained by G2 ialah V.3.2.1, V.4.2.7, V.4.2.5, V.3.2.3, V.4.2.1, and V.4.2.6; transcripts obtained by G3 ialah II.4, V.2.2.4, V.3.1.4, V.3.1.5, V.3.1.6, V.4.1.6 and V.4.1.7; transcripts obtained by G4 are III.12, III.13, III.14, IV.8, IV.6 dan IV.7; dan G5 ialah V.3.1.1, V.1.1.5, V.1.1.6, V.2.2.1, V.4.1.3, V.4.1.4, and V.4.1.5.

Pair Comparison done by 2 researchers in each group for each respondent. Each researcher receives a transcript to read. Enter Pair Comparison category or subcategory need to be co-located with each project's research assistant to produce nodes in NVIVO. The nodes produced on the second and



subsequent occasions are additional existing nodes from the analysis of FASA II interview transcripts according to each category of respondents.

Intra group comparison. If each respondent has more than one group making an interview transcript analysis, intra group comparison will be held to compare the findings received for the group of respondents.

Inter group comparison. Lastly, after each intra group comparison was made representing each interview respondent, the intra groups comparison was taken to the inter comparison level representing quality of ECCE in Malaysia. At this stage, a combined total of interview findings for Teaching and Learning focused Phase II.

### **Conclusion**

The systematic and right process can produce a desired result. In addition, Nvivo software analyzes qualitative data, especially in large scale interviews can be well managed and systematically through pair, intra group and intra group comparison, thus producing *reliability*, fairness and *validity of interviews in* Project Determining Contributing Factors of Quality ECCE.

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