

# Self-Assessment Towards Continuous Professional Development of Islamic Education Teachers: A Research Approach Using Mixed Methods

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## ABSTRACT

The study aimed to understand the mixed-method approach as a research design for self-assessment study of Islamic Education Teachers (IET) towards Continuous Professional Development. The selection of this method was based on the needs of the study that required for researcher to get a real picture of the concept of self-assessment among IETs from the view of individuals with well experience in this field. The level of self-assessment practice will be taken for the next stage of the study. This type of mixed method known as exploratory sequential design that began with a qualitative approach and followed with a quantitative approach. The findings of interview with six experienced Islamic Education experts who were selected based on certain criteria used as a basis for the questionnaire instrument development that later used to obtain further quantitative data for this study. This article stressed the importance of the selection of this method by looking at the needs and how the data from the two methods can be connected to answered the research objective of the study.

## KEYWORDS

continuous professional development, instrument development, Islamic education teacher, mixed methods, self-assessment

## INTRODUCTION

Self-assessment is corresponding to the concept of *muhasabah* in Islam which defined as the act of self-evaluation (thoughts, attitudes, etc.) for self-improvement and introspection (Kamus Dewan, 2016). Sulaiman (2014) stated, assessment is a stimulus for a person to respond and reflect on that assessment reflection). It can be concluded that reflection is a process of contemplating, analysing problems, finding reasons, suggestions and actions to improve oneself (Hussin, 2000).

As teacher, they need to understand self-assessment as a necessity for their career as suggested by Baba (2006) that reflective thinking is a requirement for us to look at the past to make changes today. From the assessment, teachers can identify their strengths, weaknesses and deficiencies to plan towards the necessary improvements. It is able to provide a belief for a person to respond by always thinking and being enthusiastic (Mezirow, 1990).

Understanding the concept of self-assessment and practicing it is a teacher's effort towards goodness and excellence as emphasized by Ajem and Memon (2011) that it is the practice of Islamic pedagogy and the basis of spiritual training to achieve educational excellence. It is not only to obtain the grace of Allah S.W.T (Makhsin, 2012) but it is also to make people aware of the responsibility of preserving the rights of God, human rights and common rights.

Thus, self-assessment is closely related to the development of a teacher's professionalism. Teachers are able to develop their professionalism continuously by practicing self-assessment constantly as a structured framework to assess a need (Burns, 1982) and also as a process of collecting data and information about self-achievement (Haertel, 1993). Reflective practice and self-regulation can be categorized from the self-assessment approach (Masuwai et al., 2021) which the important characteristics of a teacher with a high level of professionalism.

## LITERATURE REVIEW

Greene (2007) stated that mixed method is "various ways of seeing and listening" that researcher can find out something by using various ways either with words or with numbers. Creswell and Clark (2011) discussed this method in detail as a source of something coming out naturally. This method also called as the third path (Gorard & Taylor, 2004) and the third research paradigm (Johnson & Onwuegbuzie, 2004). Teddlie and Tashakori (2009) categorized the third group of researchers in the social science and behavioural science as mixed methodologist that working primarily within the pragmatist paradigm and interested in both narrative and numeric data and their analyses.

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The trends that exist in the selection of methods for self-assessment studies conducted before are mostly used quantitative approach instead of qualitative approach. Among the studies that use quantitative methods is like Akbari et al. (2010) that discussed about teaching reflection and its relation with self-regulation. In this study, the English Language Teaching Reflection Inventory (ELTRI) and Teacher Self-Regulation Score (TSRS) instruments were used and the findings show that there is a significant relationship between teaching reflection and self-regulation ( $r=0.29$ ;  $\text{sig}<0.05$ ). A study by Takwin et al. (2018) also created a new instrument on teacher self-assessment modified from the DeVellis instrument (2012) which achieves a high level of construct validity which is between 0.70 to 0.95 which uses confirmatory factor analysis as research analysis.

Whilst, the Teacher Evaluation Survey as an instrument was also used in the study for teacher self-assessment which reached Cronbach's Alpha value between 0.79 to 0.92. Similarly, the study by Kocvarova et al. (2016) through the Teachers' Self-assessment instrument which achieved a Cronbach's Alpha value of 0.91 regarding the self-assessment of teachers working with students with disabilities. These four studies used a fully quantitative method to determine the validity and reliability of the new instrument developed.

Hixon, Ravitz and Whisman (2012) and Ravitz (2014) have used the Teacher Self-Assessment instrument to measure the self-assessment of the level of teacher competence. Findings from it have shown a mean value between 2.58 to 3.73 and a standard deviation value between 0.71 to 0.94. The correlation value between the constructs for this instrument is  $r=0.42$ ,  $p<0.01$  which shows that the relationship between self-assessment and the improvement of teachers' competence is very closely related. Akram and Zapeda (2015) in the construction of a teacher self-assessment instrument called the "Self-assessment Instrument for Teacher Evaluation", have created a teacher self-assessment scale that is verified by experts consisting of education professors and teachers with more than 20 years of teaching experience. Out of which 28 items were listed and administered to 279 secondary school teachers in Pakistan.

Some other studies that focus on the self-assessment of teaching and classroom management skills through instruments built are Simonsen, Fairbanks, Briesch, & Sugai (2006) with the instrument of Classroom Management Self-Assessment Revised and Gordana Djigic (2014) with the instrument of Inventory for Teachers' Self-Assessment in Classroom Management Styles (ITSCMS). These two studies used quantitative methods by listing some of the main domains of self-assessment.

Rahman (2005) in his study stated that self-reflection is one of the important things in the development of teacher professionalism. Based on the results of the regression analysis carried out, it was found that the self-reflection carried out by 120 primary school teachers made a significant positive contribution to professional behaviour or efforts to develop teacher professionalism, which was 35.1% ( $p<0.05$ ). Another study related to self-assessment was conducted by Osman and Basar (2015) on lecturers at the Institute of Teacher Education Ipoh Campus regarding teaching and learning (TnL) in the 21st century. The instrument for this study successfully measured aspects of lecturers' 21st century TnL practices involving higher level thinking skills (HTL), projects, reflection, collaborative assessment, problem solving, technology, TnL and skills building.

Qualitative methods that slightly used in other self-assessment studies can be found in the study by Hussin (2004). She conducted interviews with several practicum teachers along with 'coaching' sessions, reflective journals and observation notes in producing an organized framework of reflective thinking in the writing of trainee teachers' journals during the practicum. Her research focuses on exploring the experiences of trainee teachers in implementing reflective practices at school, the level of teacher teaching knowledge through their reflection in journals and the extent to which a teacher's values and trust in colleagues, the cooperation of teachers and lecturers in college affect their ability to think reflectively.

Min et al. (2017) in his action study regarding reflective journal writing among trainee teachers, interviewed eight trainee teachers to explore the effectiveness of reflective journal writing by identifying its strengths and weaknesses. This exploration found that reflective journals are relevant in helping trainee teachers to trigger critical reflection in their reflective journal writing.

From the studies on self-assessment, it can be seen that the selection of the method of the study is determined by the objective of the study. The analysis and the form of the instrument used is also taken into account in determining the research method that can help to provide answers for all the research questions.

### **STUDIES ON SELF-ASSESSMENT IN ISLAMIC EDUCATION**

The field of Islamic Education also takes into account the importance of studies related to self-assessment by creating several new instruments and research involving Islamic Education Teachers (IETs), students and the educational institution itself. Previously, a study by Safar (2012) developed the Student Moral Assessment Instrument (IPAM-RS) using a mixed method that starting with an interview with six practical experts who formed seven constructs, namely morality towards God, the Messenger, self, family, society, and the environment. and country. The instrument administered to secondary school students involved a total of 874 respondents from 17 schools that were analysed using the Rasch Measurement Model, showing that all items are suitable for use with an item reliability index of 0.91 and a respondent reliability index of 0.99. His study affirmed that students' moral appreciation must be emphasized in producing human capital that is harmonious in terms of

intellectual, spiritual, emotional and physical based on faith and obedience to God. The developed IPAM-RS is an inventory for students' self-assessment in helping them build commendable morals and at the same time as a tool for reflection by peers.

Makhsin (2014) has also highlighted the practice of supervision through *hisbah* that involves three components. It can be named as self-*hisbah* and social *hisbah*, and the third component is to identify the relationship and contribution of both to the students' moral appreciation. Her study used a fully quantitative method involving 1785 high school students which showed that there is a high relationship between self-report ( $r=0.733$ ,  $p<0.01$ ) and social report ( $r=0.707$ ,  $p<0.01$ ) with students' moral appreciation. The regression analysis carried out showed that self-report (71.7%) and social report (74.3%) contributed to students' moral appreciation. The recommended practice of self-assessment is very important in the formation of student morals where each individual will always think before do something, be careful and alert, which is the hearts' scheming for every action.

Study by Salleh (2018) discussed about IET moral self-assessment as a necessity and towards increasing self-competence in line with the demands of the Islamic religion itself. In her research, she used a mixed method approach by conducting interviews with three experts in the field and a practical expert to obtain themes for the self-assessment of IET morals. The findings show three moral themes, namely morals to Allah S.W.T, morals to humans and morals to nature. Salleh's study, which began with qualitative method and followed by a quantitative method to develop the INSPI instrument for teacher's character profile. The instrument that built based on expert interviews, book analysis and *naqli* arguments was analysed using a combination of Classical Measurement Theory (CTT) and Model Measurement Theory (Rasch Model).

Meanwhile, a study conducted by Zulkifli et al. (2023) on the other hand is focusing on student progress after using wisdom pedagogy in their learning. Quantitative methods have been used in this study by conducting a questionnaire involving 32 IET people from urban areas and the rest from rural areas involving national primary schools, national secondary schools and private schools. The findings of the study showed that the teacher's assessment of students' cognitive abilities after using wisdom pedagogy shows an encouraging increase in helping students improve critical, creative, collaborative and communication skills, which is the overall mean average value of 2.55 and the standard deviation value is 0.19. Qualitative studies have been suggested for future studies in addition to see the comparison with existing quantitative findings.

Another study by Zulkifli and Azman (2021) on 328 primary school students based on wisdom pedagogy on Islamic Education subjects that focus on students' self-assessment. The students involved in this study are 136 students from national schools, 182 from private schools and 10 of them from Chinese national schools. This study used a quantitative method by using the Students' Self-assessment Checklist as an instrument and the findings show a high reliability value of 0.79. The level of students' self-assessment of wisdom pedagogy reached a high mean value of 32.7 and a standard deviation value of 4.23 involving listening, speaking and responding skills. Table 1 below summarizes the self-assessment studies conducted in the field of Islamic Education.

**Table 1. Self-Assessment Study in the Field of Islamic Education**

No.	Research topic	Research Focus and Methodology	Findings Summary of the Study
1	Development of a Peer-Based Moral Assessment Instrument (IPAM-RS) for Secondary School Students (Safar, 2012)	Moral assessment among high school students  (Mixed Method)	<ul style="list-style-type: none"> <li>The seven moral constructs are morals towards God, the Messenger, self, family, society, the environment and the country.</li> <li>The Rasch Measurement Model shows that all items are suitable for use with an item reliability index of 0.91 and a respondent reliability index of 0.99.</li> </ul>
2	<i>Hisbah</i> and Moral Appreciation of Secondary School Students (Makhsin, 2014)	The practice of supervision through <i>hisbah</i> that involves three components, namely self- <i>hisbah</i> and social <i>hisbah</i> to identify the relationship and contribution of both to the students' moral appreciation.  (Quantitative Method)	<ul style="list-style-type: none"> <li>There is a high relationship between self-report (<math>r=0.733</math>, <math>p&lt;0.01</math>) and social report (<math>r=0.707</math>, <math>p&lt;0.01</math>) with students' moral appreciation.</li> <li>The regression analysis carried out showed that self-report (71.7%) and social report (74.3%) contributed to students' moral appreciation.</li> </ul>
3	Development of Islamic Education Teachers Moral Construct of Self-Assessment Instrument by Experts	Self-assessment of morals of Islamic Education Teachers  (Mixed Method)	<ul style="list-style-type: none"> <li>The findings show three moral themes, namely morals to Allah S.W.T, morals to humans and morals to nature.</li> </ul>

	(Salleh, 2018)		<ul style="list-style-type: none"> <li>• Build an INSPI instrument to build a teacher's moral profile that is analyzed using a combination of Classical Measurement Theory (CTT) and Model Measurement Theory (Rasch Model).</li> </ul>
4	Teacher Evaluation of Student Progress in Islamic Education Using Hikmah Pedagogy  (Zulkifli et al., 2022)	Student progress after using wisdom pedagogy in learning  (Quantitative Method)	<ul style="list-style-type: none"> <li>• The teacher's assessment of students' cognitive abilities after using hikmah pedagogy shows an encouraging improvement in helping students improve critical, creative, collaborative and communication skills, which is the overall mean average value of 2.55 and the standard deviation value is 0.19.</li> </ul>
5	Students' Self-Assessment on Hikmah Pedagogy in Islamic Education  (Zulkifli & Azman, 2021)	Students' self-evaluation of wisdom pedagogy in the subject of Islamic Education  (Quantitative Method)	<ul style="list-style-type: none"> <li>• The reliability value of the instrument is 0.79.</li> <li>• The level of students' self-assessment of wisdom pedagogy reached a high mean value of 32.7 and a standard deviation value of 4.23 involving listening, speaking and responding skills.</li> </ul>

From Table 1, it shows there is a difference in the selection of research methods based on the focus of the research conducted. Safar (2012) in developing a student moral instrument, requires a mixed method approach to explore aspects of moral assessment that must be present for a student obtained from interviews conducted with practical experts which are then administered to students through questionnaires conducted. The results of the questionnaire were analysed using the Rasch Model to see the reliability index of the items and the reliability index of the respondents.

Similarly, a study conducted by Salleh (2018) that examines the self-assessment of IET morals. He has used a mixed method approach starting with interviews with three experts to obtain themes for the IET moral self-assessment. An instrument was successfully produced to build a teacher's moral profile that was analysed using a combination of Classical Measurement Theory (CTT) and Model Measurement Theory (Rasch Model).

However, the *hisbah* study carried out by Makhzin (2014) only used a quantitative method as the study aims to look at three components of *hisbah* which are self-*hisbah*, social *hisbah* and to identify the relationship and contribution of both to the student's moral appreciation. Therefore, correlation and regression analysis were conducted for this study. While both studies by Zulkifli et al. (2022) and Zulkifli and Azman (2021) used a quantitative approach aimed at seeing the level of self-assessment of teachers and students towards the pedagogy of wisdom used in Islamic Education subjects. Results The mean value of the standard deviation was observed in this study.

Based on the focus of this study, the researcher decided to use a mixed method approach to explore the concept and aspects of self-assessment for IET from the point of view of the experts in the field to get an overview and real phenomena that occur. The quantitative method followed by developing a questionnaire instrument based on the themes obtained to review the practice of self-assessment among IETs. The quantitative approach used to identify the level of self-assessment practice, relationships between self-assessment and professional continuous development and the self-assessment contribution towards the development of teacher professionalism. Based on these requirements, the mixed method is considered the most appropriate to answer all the questions for this study.

### OBJECTIVE OF THE STUDY

Based on the focus of the study, the researcher tends to use mixed methods as a research design. The researcher not only needs to explore the concept and aspects of self-assessment for teachers but also needs to review the practice of self-assessment among them. Therefore, the objective of this article is to explain the purpose and rationale of the mixed method selection chosen by researcher for the self-assessment study among IET.

### Research Audience

The audience for this study are researchers who conducting research using mixed methods approach, that is those who determine the study design based on the topic and phenomenon being studied. From this article, the audience can interpret the findings of qualitative and quantitative data conducted to get an exact picture of a study. The understanding of the procedure and ethics of conducting the study itself can also be well understood without neglecting the aspects of validity and reliability of the data collected.

## METHODOLOGY

### Definition of Mixed Methods

Greene, Caracelli and Graham (1989) define a mixed method as a design that involves at least one quantitative method (collecting numbers) and one qualitative method (collecting words) whether they are related naturally between inquiry paradigms. Tashakori and Teddlie (1998) defined mixed methods as a combination of qualitative and quantitative approaches as a methodology in one study. Most recently, Creswell and Clark (2011) suggested that mixed methods are a combination of several methods, philosophies and research design orientations. Among the important components in this mixed method according to them are:

1. Collect and analyse both data (qualitative and quantitative) persuasively and carefully.
2. Mixing (connecting or joining) two continuous data by combining them by requiring one data to build another or insert between the two.
3. Give priority to one or both data (depending on the priority of the study).
4. Using this procedure in a single study or multiple phases in a study program.
5. Formulate these procedures between philosophical and theoretical viewpoints.
6. Combining the procedures in the design of a particular study leads to planning the implementation of the study.

For this study, a mixed method was chosen carefully by collecting both data where qualitative data was used directly to build a quantitative data instrument. The priority of the method for this study is the quantitative method through which several things can be measured and tested which are the objectives of this study, namely:

1. Identifying the level of self-assessment of Islamic Education Teachers.
2. Identifying significant differences between the self-assessment of Islamic Education Teachers with demographic factors.
3. Identifying the relationship between self-assessment and Continuous Professionalism Development among Islamic Education Teachers.
4. Identifying the contribution of self-assessment to the Development of Continuous Professionalism among Islamic Education Teachers.
5. Produce a model that matches the comprehensive study data on the level of self-assessment of Islamic Education Teachers as well as their relationship and contribution towards Continuous Professionalism Development.

Mixed method procedure is used for a single study to confirm existing theories. Thus, the researcher has combined the entire procedure for this study in the formation of the study design and its implementation.

### Rationale for Selection of Mixed Methods

The selection of mixed methods for this study is based on the natural conditions of the study to be conducted. Green et al. (1989) have listed five purposes for which mixed methods are used in one study, namely for:

1. Triangulation, or finding convergence of results
2. Complementary, or testing the overlap and difference in the characteristics of the phenomenon
3. Initiation, or the exploration of paradoxes, contradictions, new perspectives
4. Development, or the use of sequential methods (such as the findings from the first method are specified for use in the second method)
5. Expansion, or mixed methods add breadth and scope to the project

Based on the following objectives, this study is more focused on development purpose. The mixed method based on this purpose will happen sequentially, i.e. the findings from the first method will be used for the second method to produce new findings.

Several justifications were made by the researcher regarding this selection, the first justification being the need for the data itself where one available data source is insufficient. The combination of qualitative and quantitative data provides a clearer understanding of the research problem (Creswell & Clark, 2011). The construction of the questionnaire instrument is based on references from existing instruments, document analysis and existing concepts and theories to obtain quantitative data. However, the researcher also needs to take into account the reality of the teacher's situation and the existing situation as well as the definition of the concept from the point of view of individuals in the field. Therefore, the researcher conducts interviews with those who are experienced in the field to obtain themes that help to construct the questionnaire.

The second justification is the need to generalize survey findings. The researcher started the qualitative phase to explore and followed up with the quantitative phase to test the generalization of the qualitative results obtained (Creswell & Clark, 2011). In this study, the study started with interviews which were then used to build instruments. These interviews were conducted to explore important issues related to self-assessment in order to construct relevant questions and also to find something important in this population (Creswell & Clark, 2011). The instrument that was built will be administered to different samples

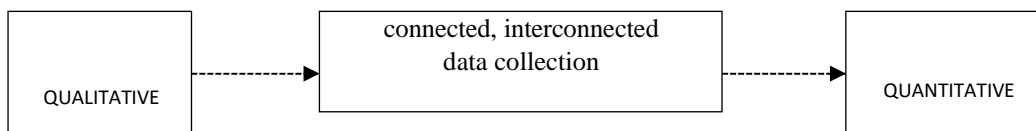
to test whether there is a difference issue with the demographic character which is the second objective of this study. Based on these justifications, the mixed method was chosen and appropriate to be used for this study.

### Mixed Method Approach and Its Advantages

The fact that needs to be acknowledged that a study requires both qualitative and quantitative approaches to understand the world (a phenomenon) (Miles et al., 2014). The question is, do these two data need to be connected? how can these two data be connected? and what is the need for this relationship to be made?

For this study, qualitative data can help the quantitative study that will be conducted for the formation stage, which is in developing a concept and instrument. It can help to make data collection easier with existing networks. At the data analysis level, it can help in confirming, interpreting, explaining and illustrating the quantitative findings obtained by strengthening or modifying existing theories (Miles et al., 2014).

In general, one of the main purposes of selecting these two methods is to: (1) provide an analytical texture to the study; (2) replacement for the lack of another method; and (3) modify or strengthen analytical findings when the results between the two methods differ (Miles et al., 2014). For this study, the selection of these two methods is inclined to the first purpose, which is the qualitative study to provide the basis for the construction of instruments for the quantitative study that will be carried out later. In particular, the study was combining the collection of both qualitative and quantitative data as needed to understand the cases studied. This form of mixed study is as illustrated in Figure 1.



**Figure 1. Mixed Study Design**

Source: Miles and Huberman. (1994). *Qualitative data analysis: as expanded sourcebook*. 2<sup>nd</sup>. Ed., Thousand Oaks, CA: Sage Publications.

At the initial stage of the study (qualitative), the researcher interviewed six experienced Islamic Education experts according to several defined criteria. The interview that was conducted was to explore the concept of self-assessment practiced by IET and deepen how it happened. Some of the main focuses in this interview as compiled in the construction of the interview protocol questions which were confirmed by the supervisor and also through expert validity assessment are:

1. the meaning of self-assessment
2. self-assessment purposes
3. aspects of self-assessment
4. elements of self-assessment in teaching
5. time to do a self-assessment
6. attitudes and characteristics of teachers who carry out self-assessment
7. challenges and obstacles in doing self-assessment

As for the qualitative data that will be obtained, this is the actual experience of individuals who are in that field or aspect which is basically to place the meaning of the individual in the place of events, processes and structures of life and connect those meanings in the social world around them (Miles et al., 2014). It is the best strategy in discovering, exploring new areas and building research hypotheses (Miles et al., 2014).

In the second stage of the study (quantitative), the researcher will collect and analyse the qualitative data obtained and use these findings as the basis for the construction of quantitative instruments. All the themes that emerge from it will be converted into constructs for the development of the questionnaire and also needed to build sub-constructs and items. Therefore, to answer the initial question that was raised earlier is as follows:

1. Do these two data need to be linked?  
The answer: Yes, because the qualitative data obtained is used to help in the construction of the questionnaire instrument development for the next quantitative study.
2. How can these two data be connected?  
The answer: It is connected by using the theme of qualitative findings for the construction of constructs and sub-constructs of the questionnaire.
3. What is the need for this relationship to be created?  
The answer: This relationship is necessary because in order to obtain data on IET self-assessment practices, the researcher must first explore the concept of practicing this practice among IETs first through the views and experiences of the experts interviewed.

### Priority Determination in Mixed Methods

Priority in mixed methods refers to the relative importance or weighting of the study to answer the research question. There are three possible options for this weighting according to Creswell and Clark (2011) namely:

1. Both methods have equal priority, so both are used in balance to answer the research question
2. Quantitative research is more important, which is the emphasis on quantitative methods, while qualitative methods play a secondary role.
3. Qualitative research is more important, which is the emphasis on qualitative methods, while quantitative methods play a secondary role.

Based on these possibilities, this study has been placed under the second possibility, which is the priority is to quantitative research taking into account the research questions that are mostly quantitative in nature.

### Mixed Methods Design

The classification of mixed method design is based on the discipline of the study. In education studies in particular there are several designs identified by several researchers. Tashakori and Teddlie (1998) have determined that mixed method design is in equal status or dominant and less dominant status. Both can happen in parallel or sequentially. Of the eight designs listed by them, this study is more inclined to a sequential mixed model ie the study begins with a qualitative study and is followed by a quantitative study.

Creswell et al. (2003) have listed six mixed designs for educational research, namely sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent nested and concurrent transformative. For this study, the selection is more inclined to sequential exploratory design or sequential exploration. That is, from an exploration in a qualitative study, it is followed by a quantitative study. In 2003, Tashakori and Teddlie divided this mixed method design into four, namely multistrand design, concurrent mixed design, sequential mixed design, multistrand conversion mixed design and fully integrated mixed model design.

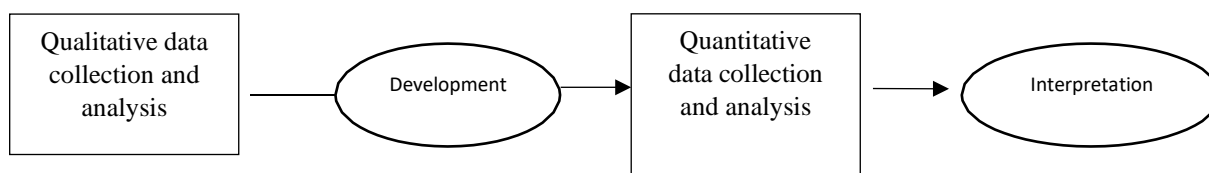
From the following division of mixed methods, this study can be placed under the section of sequential mixed design, which is sequential mixed methods design. From the classification of mixed method design that follows, it can be understood that the researcher needs to be clear about the research questions and objectives so that they can be matched with the research problems that want to be addressed. This consideration is necessary to guide the direction of a study (Creswell & Clark, 2011).

The example of a study that used sequential mixed methods is Floyd (1993) taken from Tashakkori and Teddlie (1998) related to "Sleep Bothers". In the first stage of the study, qualitative data collection consisted of semi-structured interviews that created four themes. It was found that a person's need for sleep decreases is related to age which is environmental factors and changes in sleeping style. Whilst, the second stage of the study involves the collection of quantitative data which consists of questionnaires that have two scores namely 'sleep frequency' and 'sleep contentment' which do not show any correlation between the need for sleep and age. Both of these methods were performed on both sexes and it was found that men and women experience sleep disorders caused by several other aspects.

From this example it can be understood that the words of the research participants in the first study (qualitative) affect the questionnaire in the second study (quantitative). From both findings, some have similarities and yet more are different. With that, the combination of the use of these two methods provides questions and/or fields that need to be studied which cannot be proven by the use of one method alone (Tashakkori & Teddlie, 1998).

### Sequential Exploratory Design

Sequential exploratory design or better known as exploratory sequential design is used for studies that follow each other over time. It prioritizes the collection and analysis of qualitative data in the first phase and the findings from it led to the second phase which is a quantitative study involving a larger sample. The researcher will interpret how the quantitative findings are constructed from the qualitative findings. This process can be seen based on Figure 2.



**Figure 2. Exploratory Sequential Design Process**

Source: Creswell and Clark. (2011). *Designing and Conducting Mixed Method Research*, 2<sup>nd</sup> Ed., Thousand Oaks, CA:Sage Publications.

The selection of this design is most useful to generalize, measure or test the findings of the research whether it is generalized to the sample and population (Creswell & Clark, 2011). The identifiable characters of this design can be summarized in Table 2 below.

**Table 2. Characteristics of Sequential Exploratory Design (Exploratory Sequential Design)**

Character	Explanation
Definition	A method that begins with the collection and analysis of qualitative data (Phase 1) and is followed by the collection and analysis of quantitative data (Phase 2)
Purpose	To test the findings of qualitative exploration
The foundation of the paradigm	Constructivism (Phase 1) Post-positivism (Phase 2)
Interaction level	Interactive
Method priority	Qualitative emphasis
Method execution time	Sequential: start with qualitative
Interconnect space priority	Data collection
Mixed primary strategy	Connecting two methods <ul style="list-style-type: none"> <li>• From qualitative data analysis to quantitative data collection</li> <li>• Using qualitative findings to make decisions on quantitative research questions, sampling and data collection in the second phase.</li> </ul>
Common variants	Theory development Instrument development

Source: Creswell and Clark. (2011). *Designing and Conducting Mixed Method Research*. 2<sup>nd</sup> Ed., Thousand Oaks, CA: Sage Publications.

Creswell and Clark (2011) also add some things that researchers need to consider in using this design, namely:

1. Researchers and research problems are more qualitatively oriented
2. The researcher did not know what constructs were important in the study and relevant quantitative instruments were not obtained
3. The researcher has time to conduct the study in two phases
4. Researchers have limited resources and need a design that collects and analyses only one data at a time
5. Researchers identify emergent new research questions based on qualitative findings that cannot be answered with quantitative findings

Finally, based on the following justification, this study is divided into two main phases, namely Phase 1 involving a qualitative study and Phase 2 involving a quantitative study.

## DATA COLLECTION

### Phase 1: Qualitative Research

For the first phase of the study, the qualitative approach chosen requires the researcher to prepare for the determination of results and the preparation of study instrumentation as a basis and guide in conducting the study. Among the main things that are thought before the study is conducted according to Miles et al. (2014) as shown in Table 3.

**Table 3. Factors Determining Results and Preparation of Study Instrumentation**

Instrumentation that requires little preparation		Instrumentation that requires a lot of preparation	
A rich descriptive context of the study is required	/	The context of the study is not so important	
Concepts are determined inductively in local meaning		The definition of the concept will be done later by the researcher	/
Survey, inductive	/	Validation, according to theory	
Aim for descriptive	/	Intended for clarification	
Emphasis on basic research	/	Use, evaluation or policy interest	
Single case	/	Various cases	
The comparison is not that important	/	Comparison is important	
The comparison is not that important	/	Comparison is important	
Simple, manageable, single case level	/	Difficult, multiple levels, redundant cases	
Generalization is not so observed	/	Generalization/representation is important	
Need to avoid impact on the researcher	/	The effect on the researcher is not so noticeable	
Qualitative only, independent study		A study of several methods, including quantitative	/



Based on Table 2, it can be seen that for this study the researcher has collected descriptive data about the context of the study to be conducted. The researcher has made a systematic reference about studies related to self-assessment which produced several instruments and inventories. The researcher also made reference to some existing instruments related to this self-assessment as well as verses from the Quran and related hadith quotes. The policy and some reference documents were also referred to by the researcher in compiling the descriptive of this study.

Construction concept for this study is determined inductively in the local sense, which is based on the definition and explanation of the study participants involved in this study. It is inductive to get a real picture of what is happening. This study is also a single case in which comparison is not a priority. With that way it is simpler and easier to manage. Significantly, at this stage generalization will not be made by the researcher because it is still an independent study.

Based on the factors described, it can be concluded that this study from the point of view of instrumentation only needs a little preparation because the detailed study using a quantitative approach will be carried out next in the second phase.

**Qualitative Data Management**

In qualitative research, data management is very important because it involves several sources, several locations and sometimes involves numbered data. The same goes for quantitative studies that have systematic data sets, code books, documentation of variables, analysis records and so on. Regarding the management of this data, Miles et al. (2014) reminded that it is: (1) high quality, achievable data; (2) all forms of analysis are documented; and (3) data retention and related analysis after the study is completed. Among the details of this data management can be seen in Table 4.

**Table 4. Details of Qualitative Data Management**

No.	Details
1	Raw material: Field notes, recordings, documents on location
2	Part of the processed data: Writing, transcription, original version-correction-cleaning-criticism
3	Data coding: Writing with specific codes is included
4	A code scheme or codebook and the iterations obtained
5	Memo or other analytical materials: The researcher's reflection on the concept meaning of the data obtained
6	Search and access to records: Information that shows the code related to the data segment searched by the researcher during the analysis, and the materials obtained, the records for each relevant segment
7	Data display: A matrix or network used to display the information obtained in conjunction with the relevant analytical text. A modified version of it.
8	Analytical episodes: Documentation of what has been done, step by step, combining displays and writing analytical texts
9	Text report: A draft prepared as stated in the construction, method and findings of the study
10	General chronological log or documentation of data collection and analysis work
11	Index of all the materials mentioned

Source: Miles and Huberman. (1994). *Qualitative data analysis: as expanded sourcebook*. 2<sup>nd</sup>. Ed., Thousand Oaks, CA: Sage Publications.

For this study, the researcher has managed all the details of the above material throughout the qualitative research stage. All these materials are organized and book for future guidance and reference.

**Phase 2: Quantitative Research**

From the findings of Phase 1, the themes that emerged from it will be the constructs of the questionnaire instruments produced. The development of this instrument underwent a detailed development process not only referring to existing instruments, but also to verses of the Quran, policies and other reference documents. As a result of the discussion and screening of the researcher with the supervisor, finally a complete instrument was successfully produced to undergo the expert validation process.

At this level of validity, the two forms of validity that are to be achieved are face validity and content validity where each of them will be analysed using the Cohen Kappa Index and the Content Validity Index. This validation process will determine the final constructs and items that will be included in the instrument before the pilot study is conducted.

The pilot study conducted involved 150 Islamic Education Teachers (IETs) who were randomly selected and their findings will be analyzed using Exploratory Factor Analysis (EFA). Through it will be obtained the number of constructs and groups of items that make up the reorganization of constructs and items for the study instrument. This process is important because the process of combining and dropping items will occur in this analysis.

After the EFA, the final instrument will be produced to undergo the actual data collection process involving 420 IET in Peninsular Malaysia. The determination of this sample is using a multistage sampling technique. Out of 14911 total population identified, only 420 IET were responds to the questionnaire (Krejcie & Morgan, 1977). The IETs involved are from four zones, eight states, 16 districts and 63 selected schools that randomly chosen.

The actual research data obtained will be analysed using Statistical Package of Social Science (SPSS) 26 to identify the level of self-assessment practice among IETs using descriptive analysis, the differences of IET self-assessment practice with demography using Independent Sample T-test and ANOVA and the correlation between self-assessment and continuous professional development using Pearson correlation and multiple regression.

The data also will be analysed using Structural Equation Modeling in AMOS to confirm the construct and related items through the observed model fit index. Through confirmatory factor analysis (CFA), construct reliability, convergent validity and discriminant validity can be measured at once. Tashakkori and Teddlie (1998) stated that the validity of this construct needs to be met as a test of the construct being studied.

The results of the quantitative findings that were carried out, successfully created a self-assessment model framework towards the development of continuous professionalism that resulted from the measurement model in the CFA analysis that was carried out. It is the main contribution of this study where it illustrates the need for IET in strengthening self-preparation to face career opportunities and challenges towards the aspired professionalism.

**Quantitative Data Management**

Quantitative data also needs to be well managed because it is involved a long process of study for the development, verification, collection and analysis of data. In relation to data management, the details of data management can be seen in Table 5 below.

**Table 5. Details of Quantitative Data Management**

No.	Details
1	Raw materials: Research instruments, permission from superiors, documents on location
2	Part of the processed data: Writing, expert verification, expert comments, respondent questionnaire
3	Data storage: Statistical Package Social Sciences (SPSS)
4	Label the data on a printed copy of the SPSS data
5	Memo or other notes: Location, school, respondent, amount collected
6	Filing and recording: Information related to instrument construction, expert validation, data collection and data analysis
7	Data display: Matrix or network used to display the information obtained in the form of statistical reports, tables and graphics
8	Analytical episodes: Documentation of what has been done, step by step, combining displays and writing analytical texts
9	Text report: A draft prepared as stated in the construction, method and findings of the study
10	General chronological log or documentation of data collection and analysis work
11	Index of all the materials mentioned

Source: Miles and Huberman. (1994). *Qualitative data analysis: as expanded sourcebook*. 2<sup>nd</sup>. Ed., Thousand Oaks, CA:Sage Publications.

For this study, the researcher has managed all the details of the above material throughout the qualitative research stage. All these materials are organized and book for future guidance and reference.

**DISCUSSION**

Sequential exploratory design or better known as exploratory sequential design chosen for this study can be summarized in the diagram below where the explanation has been detailed one by one before. This diagram is an adaptation of Myers and Oetzel (2003) which provides a brief overview of the entire study method.

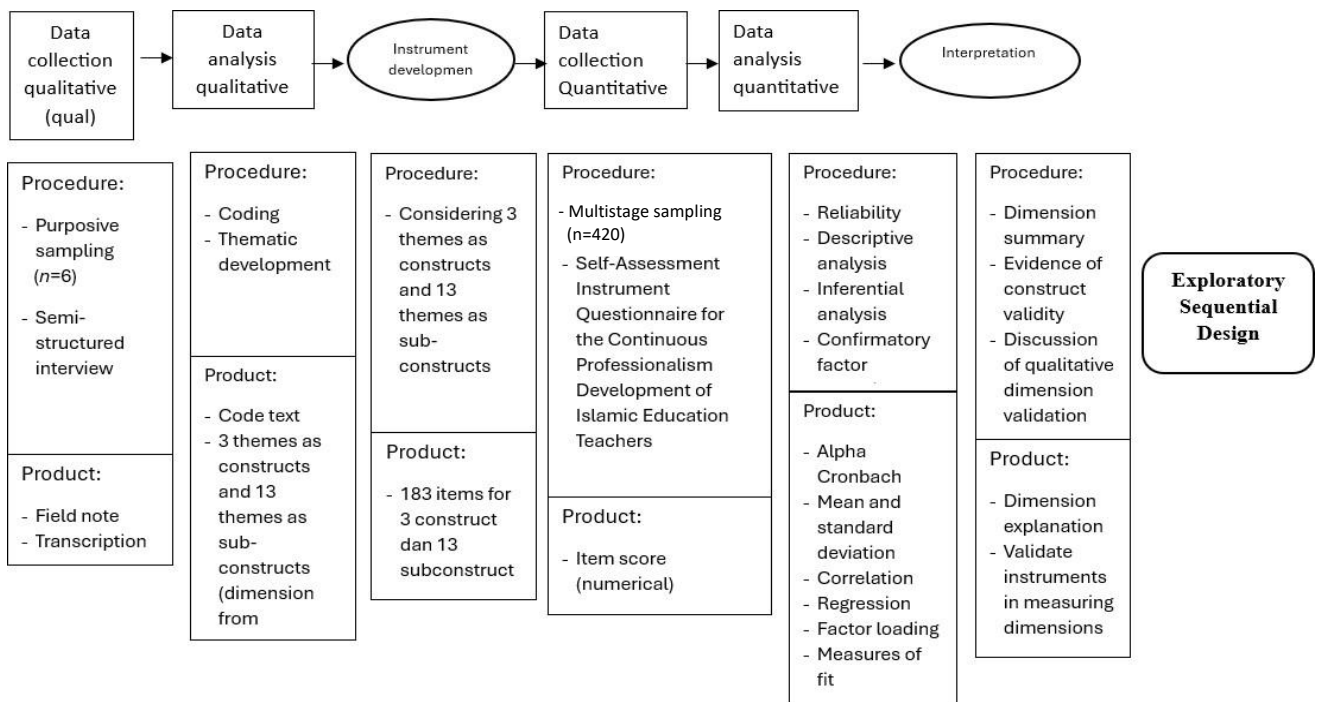
The diagram (Figure 3) shown has given a clear picture of the study of Self-Assessment of Islamic Education Teachers towards the Development of Continuous Professionalism. From the exploration conducted through interviews in Phase 1 of the study leading to the construction of research instruments until the collection of quantitative data in Phase 2. Finally, all items for each construct produced can be verified as well as verifying the questionnaire instrument for this study and creating a model framework for the study.

**CONCLUSION**

It can be concluded that this study aims to highlight the researcher's understanding of the mixed-method chosen for the study to be conducted. This understanding is important to guide the researcher with an appropriate research process to answer all the questions that have been set. From the definition, the selection rationale, the approach and the advantages of the mixed

method selection for the self-assessment study conducted, the researcher specialise the selection with sequential exploratory design (exploratory sequential design) that have been explained in detail. Along with the design process carried out, the researcher found that the selection was accurate and reasonable in exploring the concept of self-assessment among IET that then carried out with a survey of its practice towards the continuous professional development of a teacher.

Indeed, this study is important in fostering reflective practices among IETs in evaluating the implementation of educational practices. It is the main element in forming a professional teacher at the face of the era of globalization. Research instruments that have undergone a rigid validation process, can be used as valid instruments to be used to carry out self-assessments among IETs about their knowledge, skills and personality with the quality standards of the profession. This instrument can also be used as a guideline and information channel for IETs to prepare themselves with professional aspects in line with the latest needs and development expected to be achieved in line with the definition of competence by Fletcher (1992) which is the ability to transfer skills and knowledge to new situations. Competence that involves three main areas, namely field competence, pedagogical competence and cultural competence (Nordhaug & Gronhaug, 1994) that can equip teachers towards the continuous professional development.



**Figure 3. Diagram of Self-Assessment Study towards Continuous Professionalism Development of Islamic Education Teacher**

**Implications and Recommendations for Future Research**

Study that highlighted detailed descriptions using mixed methods can provide a clear picture of the need and importance to answer all research questions. It is also can helps the researcher to get an information needed and planning the study in a more structured way because it has to go through a long process involving both phases of the study (qualitative and quantitative). Each phase will involve the process of development, validity and reliability, data collection and data analysis. For future studies, the researcher will specialize in writing involving each phase that has been conducted by including data acquisition and analysis to show more accurately the importance of each phase of the study conducted.

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