

Developing Islamic Module Project for Preschool Teachers Using Modified Delphi Technique

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Abstract—The purpose of this study is to gather the consensus of experts regarding the use of moral guidance amongst preschool teachers vis-a-vis the Islamic Project module (I-Project Module). This I-Project Module seeks to provide pertinent data on the assimilation of noble values in subject-matter teaching. To obtain consensus for the various components of the module, the Modified Delphi technique was used to develop the module. 12 subject experts from various educational fields of Islamic education, early childhood education, counselling and language fully participated in the development of this module. The Modified Delphi technique was administered in two mean cycles. The standard deviation value derived from questionnaires completed by the participating panel of experts provided the value of expert consensus reached. This was subsequently analyzed using SPSS version 22. Findings revealed that the panel of experts reached a discernible degree of agreement on five topics outlined in the module, viz; content (mean value 3.36), teaching strategy (mean value 3.28), programme duration (mean value 3.0), staff involved and attention-grabbing strategy of target group participating in the value program (mean value 3.5), and strategy to attract attention of target group to utilize *i*-project (mean value 3.0). With regard to the strategy to attract the attention of the target group, the experts proposed for creative activities to be added in order to enhance teachers' creativity.

Keywords—Islamic project, modified Delphi technique, project approach, teacher moral guidance.

I. INTRODUCTION

THIS study revolved around the implementation of the Moral Project Approach on 5 and 6-year-old children who were taught using the Pre-School Standard Curriculum across several KEMAS centres in the city of Kota Bahru, Kelantan, Malaysia. This study is premised on the notion that small children are capable of constructing understanding, skills, and interests when they are directly involved in the implementation of this moral project. This assumption is grounded on theory of social constructivism [1]. In line with Vygotsky's theory, the built module was accordingly reworked and enhanced in order to accommodate the zone of proximal development (ZPD) of the 5 and 6-year-old children. While, on one hand, educators were trained to play the roles of counsellors and co-constructors or with more knowledgeable individuals or more knowledgeable others (MKO) - who only

provided scaffolding to children rather than making the project for children, teachers, on the other hand were trained to provide opportunities for children to explore, ask, investigate, and experience the things they were learning. Through this process, children developed an understanding of the concept of a relevant moral approach. As emphasized by [2], "Within the social constructivist theory, learning is explained as involving a complex interaction of interdependent social and individual processes that co-construct knowledge ... children learn as they explore the world around them and the exploration provides an avenue for problem solving. As children explore, they develop new questions, and theorize answers".

Although Piaget was the founder of the cognitive constructivism theory, Vygotsky's theory was found to be of greater relevance for this study since learning activities carried out were done in a collaborative environment (in groups), rather than individually. This concept is in sync with Vygotsky's view that children build knowledge and understanding through social interactions (with more knowledgeable individuals or more knowledgeable others [MKO]), scaffolding and exposure to experience beyond ZPD [3], [4], [1]. This observation is examined more clearly by [5], "A teacher in the early childhood classroom will aid and support the child in their own discovery and initiative through a concept called the ZPD. The ZPD allows a child to tackle a problem that is sufficiently novel to attract and maintain a child's attention, yet not so difficult that the solution cannot be perceived".

When children explore and discover new findings, their levels of interest and motivation tend to intensify. This new acquisition of knowledge and experience will spur on children to investigate more actively and with greater vigour. Furthermore, group activities encourage children to interact and work together joyfully towards creating innovative and exciting solutions. It cannot be denied that children usually feel a sense of elation, achievement and pride when they can display their own invention. Hence, as such group activities are deemed to be developmentally appropriate approaches, the project approach is specifically chosen for this study. Basically, the project approach emphasizes teacher's response to children, both individually and in groups [6]. Additionally, through this approach the child's social and moral development increases in view of collaborative activities conducted with teachers, peers and other older adults. What's more, children get to speak verbally as well as non-verbally in the course of participating in these project activities.

The non-traditional learning approach, such as the project

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approach, has generated a positive impact on the development of children. What this means is that every teacher will need to be creative, critical, and innovative when designing and putting together effective learning sessions for children. Reference [7] further remarked that how a teacher teaches in class will have a profound bearing on the learning styles of children. This is because interactive and effective teaching methods are able to stimulate children to join in and learn more effectively and become motivated by positive academic achievements in the process. This observation resonates well with earlier findings gleaned from various studies carried out [8], [9] which only go to reaffirm that teacher's teaching will influence the way students learn.

Reference [10] classified the Delphi technique as an instrument capable of establishing fact, generating ideas, making decisions and stimulating discussion in groups. Several studies have attested [10]-[12] to the viability of using the Delphi technique to facilitate the development and preparation of a suitable module to identify priorities in clinical guidelines for mental health development and to serve as reference guide for handling sensitive issues pertaining to delivery of sex education for adolescents. This technique is said to have become more stable and adaptable to a wider range of research disciplines [11]. Reference [12] further corroborated that the Delphi technique is most suited for application in the domain of university planning, curriculum development and educational model design as well. In light of this, the preschool Islamic project module was built using this technique with the expressed aim of enhancing development of moral values among children.

The Modified Delphi technique was introduced by [12]. It is a procedure that strives to attain consensus among experts through the use of non-face-to-face questionnaires [13]. In this study, the researcher approached the participants involved with the intent of explaining the procedures and getting their consent about the study. Questionnaires were later dispatched and answered by all participants via email.

Based on information culled from extensive reviews of related literature, the five core criteria used in the Delphi techniques are as follows: a) panel composition; b) participant motivation (response rate, written consent, clarity of questions, reminders; c) problem exploration; d) consensus definition e.g. percentage of agreement/medians; and e) format of feedback including participants' responses, measures of tendency and range of responses. Other criteria of number of rounds, anonymity of participants in freedom of expression and ideas as well as availability of sufficient resources of time and administrative services are also accorded due consideration [14], [15].

The theoretical framework underpinning this study aims to explain the implementation of the investigative Project Module in preschools based on Jean Piaget and Vygotsky's Theory of Constructivism. This is a theory of learning which recommends children to build individual knowledge through interaction with people or materials [16], [1]. It is also billed as theory that is generative, that is, the act of creating something from what is learned.

II. STATEMENT OF PROBLEM

The Malaysian Education Development Plan 2013-2025 [17] brought into focus the dismal decline in level of achievements of Malaysian students in PISA and TIMSS 2009, particularly for Science and Mathematics subjects. Among the contributory factors to Malaysia's declining performance in global educational assessment ranking was the observation that Malaysian students are perceived to be overly dependent on memorisation and rote learning methods and lacked in-depth understanding of concepts learnt, as well as the issue of lack of emphasis placed on high order thinking and problem solving skills [17]. On the flip side, students viewed their learning to be meaningless, unchallenging and highly irrelevant to their daily lives [18], [19].

With regards to preschool education, the quality of teaching and learning in preschool education is measured based on the learning outcomes demonstrated by children evidenced from diverse evaluative measures employed by preschool teachers. These learning outcomes not only reflect children's academic progress but also their ability to transfer knowledge and skills learnt during preschool years into primary school onwards and into their day-to-day life as well. In the National Preschool Standard Curriculum of Kementerian Pelajaran Malaysia [20], a high premium is made on the use of appropriate approaches that lend support to the creative and openness of community development for preschool children by means of activities that allow for and encourage children's participation in the decision-making process and taking responsibility for self-learning, too. To this end, a number of developmentally appropriate approaches for children are proposed in the National Standard Preschool Curriculum; with the project approach being one out of many.

At another level, [21] emphasized on the close interplay between the experience of preschool teachers, parental attitudes and learning content in the context of moral development of preschool children. Reference [21] further asserted that the government, by way of the Ministry of Education, is obligated to organise and provide in-service training to all teachers, especially so for those who are lacking in basic preschool training [22], [23]. Teachers too should take the initiative to avail themselves to teaching approaches that gravitate more towards children-centric activities. Essentially, the implementation of effective teaching and learning sessions assist in moulding the moral behavior of preschool children [24]-[26].

A study [27] conducted on "social-environmental factors and their relation with the formation of self-worth" concluded that the child's social environment has a powerful impact on the behavioral development of the child. The child's social environments comprising parents, teachers, friends, neighbors, schools and others play a critical role in the formation of self-worth and behavior of the child [28]-[30].

Reference [31] studied the 'School Culture and the Moral Development of Children' focusing on the influence of social environment to the moral development of children. Children's moral development is invariably interconnected to the people who are around them, particularly families, homes, schools

and communities [30], [32]-[34]. Given the fact that children spend a great deal of their time at school, their moral development is therefore inevitably intertwined to their school experiences. That is to say, a positive school culture will go a long way towards shaping enhanced self-confidence and related desired attitudes amongst children, and vice versa [35]-[37].

Although the project approach is formally stipulated in the National Preschool Standard Curriculum and also made compulsory for teachers to implement, however, many preschool teachers failed to do so, owing to limited exposure and a lack of basic knowledge on the most effective ways to carry out the approach [38]. Teachers, for instance, were not equipped with a guidebook or even a simple 'how-to' survival module to familiarise themselves with the daily essentials of implementing the approach. So it was hardly surprising that the most favoured approach among preschool teachers as documented in a survey was the thematic approach. This much preferred classroom approach was due to the availability of teaching resources to facilitate teachers in effective planning and execution of the teaching learning process. In fact, the Curriculum Development Division, Ministry of Education, Malaysia came up with a teaching module which was made accessible to all teachers solely for this purpose.

Despite numerous research studies conducted [6], [38], [41] by the western countries on the impact of project approaches, there is however a paucity of such research carried out and published in Malaysia, especially research at pre-school level. Examples of studies pertaining to implementation of project approach in the context of preschool education include [39], [40]. A point worthy of note here is that in Malaysia most studies related to the use of the project approach are more skewed to secondary and tertiary institutions rather than preschools. Reference [41] explained this preference for adult learners over preschoolers to the fact that adult learners already have a good mastery of reading and writing skills.

As a consequence of the above mentioned problems, this study was carried out to gather the consensus of experts regarding the use of moral guidance amongst preschool teachers vis-a-vis the Islamic Project module (*i* Project Module) and to provide pertinent data on the assimilation of noble values in subject-matter teaching.

Research Objective

The specific objective is to obtain pertinent data related to the consensus of experts regarding moral guidance provided by preschool teachers to preschool students. That data were converted into valid items for inclusion in the questionnaire. This constituted the basis of the Islamic Project module.

The general objective is to assist in the formulation and development of a viable educational policy on learning and teaching strategies pertaining to moral values development at the preschool level by using the Islamic Project Module for purpose of data collecting.

III. METHODOLOGY

The Delphi process, which stretched for a duration of three

months, consisted of a pilot round, two written rounds and a final round of data triangulation and subsequent dissemination of feedback to all stakeholders.

Based on operational feasibility, a purposive sample of 12 participants was used at the first stage of the Modified Delphi process, comprising five preschool teachers, one Head of Department of Early Childhood Education at the Teacher Education Institute, Besut Terengganu, one Head of Unit of Preschool Curriculum, Kelantan, one counsellor, two university early childhood education specialists, one national industry expert and one education lecturer. The panel of experts/specialists offered their views, suggestions and opinions, apart from evaluating the module at hand.

The experts were provided with a sample copy of the published module. These modules were provided in the language of their choice namely the Malay language.

The questionnaires made use of the 4-point Likert-scale format whereby verbal labels were used and these indicated the categories which are completely disagree, disagree, agree and completely agree. Other than the four categories, written comments (qualitative data) provided by the respondents were individually analyzed. The questionnaire for the second round was based on the results and comments received in the first round. Questions which had reached consensus in the first round were excluded from the second round. Ambiguous and confusing questions were either rephrased for clarity and precision, while some new ones were formulated after reviewing and responding to comments received from participants.

The scales of one (1) to four (4) signifying respondents' agreement for components to be included in the *i*-project module are depicted in Fig. 1.

Scale reference	Definition
1	Completely disagree (STS)
2	Disagree (TS)
3	Agree (S)
4	Completely agree (SS)

Fig. 1 Scales signifying respondents agreement for components

The results of the panel of experts were expressed in average value format. Suggestions from each expert were also added at this point of the process. When the average was less than the value of 3 (< 3.0), it was considered as not attaining the majority agreement from the panel of experts.

For round one (1), the subject matter experts were required to answer all statements prepared. Each of the panelist responses was then organised statistically and handed out one more time in the second round for purposes of re-evaluation. In the second round (2), subject-matter experts were asked to re-answer each of the statements prepared below and in the third round (3), they were free to provide personal comments and views for sake of validation.

The Delphi panel of experts was required to evaluate a set of questionnaire consisting of six components as shown in Table I.

TABLE I
QUESTIONNAIRE COMPONENTS OF DELPHI PANEL OF EXPERTS

Part	Information
1	Demographic particulars of Subject Matter Expert
2	A. Programme Content
3	B. Teaching Strategy
4	C. Programme Duration
5	D. Staff
6	E. Strategy to attract attention of target group to follow the <i>i</i> -project programme

To make use of the Modified Delphi technique, the researcher had to first of all sort out the data gathered from the interview, which were quite incoherent and unwieldy to manage, into a set of properly-worded items. These items were rephrased to make them more precise, clear and most importantly, to be able to get the required responses against the 4-point Likert Scale used. Next, the researcher began to identify the group of experts who had consented to share their expertise or their knowledge in their area of specialization in terms of expressing their views, offering criticisms and improving on the content of the items predetermined by the researcher. Prior to that, the group of experts had also given their consent to participate as respondents for a number of rounds in the study until a unanimous agreement from all of them had been reached for the final set of items. Appointment letters were also released and dispatched either by hand, post or electronic mail to all the experts who had agreed to participate.

IV. RESULTS AND DISCUSSION

The topics and their respective items which garnered more than 75% expert consensus in the first round are enumerated below. As for topics with a score of less than 75%, the participants were resent for round two Delphi in order to arrive at a unanimous consensus on the module content. The list of topics with over 75% consensus are; components for programme content, components for strategy, components for programme duration and strategies to persuade the target group to take part in *i*-project.

The breakdown of items agreed upon for the topic of Programme Content are: Proposed talk 1: Introduction to Approach of *i*-Project; Relationship of Project Approach to the Standard Preschool Curriculum; Steps in implementing the Project Approach; Proposed Talk 2: Role of teacher in providing support to learners; and significance of role of teachers in implementing the project in accordance with the phase of the project. For the next topic of strategy, the items are; Proposed Teaching Strategy 1: Workshop; Workshop to be held for 2 days at early phase of programme; Proposed Teaching Strategy 2: small group activity based on "Project Approach"; To be managed by a moderator as per study objectives; Participants were encouraged to set their own goals for transformation of knowledge achievable within 3 months; Follow-up meeting in small groups with a facilitator; and a facilitator to assist participants attain main goals of research by a show of positive support. The items for the subsequent topic of Programme Duration are; Knowledge Input

(workshop, forum, group activities) to be organised in two days and Follow-up meetings to be held a month after delivery of knowledge component. The items for the ensuing topic of Staff are; A Project Approach specialist be invited to present a talk on the topic of *i*-Project; The religious teacher/teacher concerned to work in unison to generate ideas pertaining to the role of teachers in helping learners enhance knowledge; a female facilitator to lead each small group activity; and to include psychologists to provide diverse ideas concerning the role of teachers in accelerating quality of teaching. Then for the topic of strategies to persuade the target group to take part in *i*-project, the items are; scouting for participants from neighbouring preschools which are already exposed to and familiar with the use of project approach; and to weave in the topic of *i*-project and establish links with Islamic Education during knowledge input sessions in workshops/forums. In addition, there are some items that were not agreed upon by experts such as organizing large group workshops, having small groups of 8 to 12 participants per group and inviting role model teachers in the workshop sessions. The items stated above were rejected because they did not focus on round 3 objectives or were lacking support from round one.

V. CONCLUSION

Based on the results, the Delphi technique proved to be not only a very useful tool for policy development process in instilling moral guidance amongst preschool teachers but also a versatile medium allowing for creative collection of opinions and suggestions from panel experts and specialists about a new topic. While it is noted that the success of the Delphi process warrants a representative stake holder composition and high levels of motivation and willingness on the part of the participants, but the flexibility and ease of administration along with conclusions drawn from the Delphi process yielded far greater convenience and benefits to policy planners and programme managers alike. That said, one of the limitations of the Delphi method is that of retention of participation from beginning to the end of the research process and data collection. In this study two participants were not able to be present with the group at the different stages of the follow up round. Also on the development of the Islamic Module Project for preschool teachers, findings revealed that the panel of experts reached a discernible degree of agreement on five topics given in the module, viz; content of the module, teaching strategy, programme duration, staff involved and attention-grabbing strategy of target group participating in the value programme, strategy to attract attention of target group to utilize *i*-project and creative activities to be added in order to enhance teachers' creativity.

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