Nominal Group Technique: a Brainstorming Tool for Identifying Learning Activities Using Musical Instruments to Enhance Creativity and Imagination of Young Children.

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Abstract

The purpose of this study is to identify consensus by experts on appropriate activities to enhance the development of preschool children's imagination through the use of musical instruments. In order to obtain an in-depth understanding of teachers' conceptions on imagination in creativity development and their beliefs about the best way to promote imagination in the classroom, the nominal group technique (NGT) was used to structure each focus group meeting. Finding shows a list of activities that have been sorted according to ranking as determined by the experts. All the experts also believe that the list of activities can boost the child's imagination because such activities have the characteristics that suit well with children.

Keywords: Nominal Group Technique, creativity, imagination, musical instrument, pre-school curriculum

1. Introduction

Creativity building among children concerns on two elements that need to be addressed, namely imagination and expression (Vygotsky, 1967; Kim, Kaufman & Sriraman, 2013). According to Susan (2010), imagination of a child at an early stage is at a very high level. The child must be given ample opportunity and enough space for their imagination to take place in order for them to think creatively. According to Egan (1999), his study emphasized that imagination is a need to ensure that we think and be creative constantly in our modern society. Meantime, art allow us to keep on imagine (Gadsden, 2008). He also affirms that art:

… allow individuals to put their place in the skin of another; to experience reality and culture of others; to sit in another space; to transport themselves across time, space, era in history, and context; and to see the world from different point.(Gadsden, 2008)

Imaginative activities are involved in the creative process because creative ideas are generated through imaginative ability. The ability to imagine is an essential prerequisite to publish and translate creative ideas (Azhar, 2004; Callahan & Miller, 2005; Beghetto, 2009). The ability to imagine are within every individual and it can be performed any time and in any situation regardless of age and background level. Nevertheless, to be a creative person, the ability to imagine is one of the

most important factors of being a human. Imagination can be triggered using words to describe or illustrate certain abstract, view the conflict events or occurrences, reverse a hypothetical events, and using alternative thinking to something that has been considered (Schirrmacher, 2002; Reis & Renzulli, 2009; Aubrey, Ghent & Kanira (2012). Critical thinking can permeate all aspects and beyond these aspects critical thinking is the real imagination activator. Imagination is usually associated with the allegation that fantasy practices as something that do not exist. But imagination in actual is the basis for any creative activity and it is an important component in every aspect of human life (Kim, Kaufman & Sriraman (2013).

2.   Developing children creativity and imagination

Built imaginations are often based on material obtained from reality through one's environment and experience. Moreover this factor is very important that influence one's imaginative ability. In addition, imagination also plays an important role on human action and development (Pfeiffer (2012). Every human experience is translated through imagination because it is through imagination that human can conceive something that cannot be seen, describing information obtained through stories of others and describing something that are experienced by other people. The relationship between imagination and experience are closely intertwined and constantly influence each other (Pfeiffer & Thompson, 2013). Apart from experience, imagination can also be influenced by one's emotions. Each feelings and emotions require different forms of imagination. This is because each feelings and emotions that are seen and experienced will produce different imagination (Ribot, 1906; Vygotsky, 1967). In one particular situation, emotions may affect imagination; nevertheless imagination may also affect emotions. Schirrmacher (2002) explains that creativity is dependent on one's environment. Each creator includes those brilliant inventors who are product of their time and environment.

Studies show that a decrease in the level of a child's imagination is caused by environment and culture of the child rather than caused by natural process (Torrance, 1974; Runco, Millar, Acar, & Cramond, 2010; Pfeiffer, 2012; Kim, Kaufman & Sriraman, 2013). Children should be exposed to different forms of experience so that they have the opportunity to play with fantasy in order to encourage them to imagine.

National Pre-School Standard Curriculum (KSPK) which was implemented in 2011, explains that there are six learning cores which are similar to the cores focused in primary education, namely: Communication; Spirituality, Attitudes and Values; Humanities; Science and Technology; Aesthetic and Physical Development and Personal Skills Development. Creativity Domain Standard (SDK) is one of the domains in the curriculum that is made up of two components, namely fostering creative thinking and creative attitude and personality (Ministry of Education, 2009). Each child is considered as having the creativity potential naturally. However, appropriate nurturing, guidance, encouragement and environment are essential in producing creative and innovative individuals (Ministry of Education, 2009). It is intended to provide opportunities and space for children to think in a creative and innovative manner and to generate individuals with the following characteristics:

1. keep asking and looking for answers,
2. making associations and observing correlation,
3. anticipating on future events and happenings,
4. making speculation on possibilities, and
5. exploring ideas, actions and results.

According to KSPK, creativity and innovation can be further developed through two main approaches. The first is implementation on all cores through teaching and learning activities and second is implementation through music and visual art education (Ministry of Education, 2009). Through this approach, development of children will have the opportunity to express their ideas creatively and engage in musical activities healthily. Teachers who teach preschoolers were often seen as individuals who are able to enhance children's creativity. Nevertheless it was found that most teachers in pre-school level are incapable to help in nurturing the values of individuality, creativity, imagination and aesthetic appreciation (Wong and Lau, 2001).

Music can be seen as one of the tools that contribute to the children holistic development which includes the intellectual, emotional, physical, social and aesthetic developments (Steele, Bass, and Crook, 1999; McKelvie & Low, 2002; Norton, Winner, Cronin, Lee, and Schlaug, 2005). This is because musical activity is an integral part of their daily activities such as singing, moving, dancing, and playing musical instruments and the sounds that they produced on their own (Anvari, Trainor,

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Woodside & Levy, 2002; Gordon, 2003; Legg, 2009; Hash, 2010). Despite the importance of creativity and the role of music in the development of children education has long been recognized in Malaysian preschool education, but their appreciation, understanding and implementation are often put into question (Ministry of Education, 2009). In reality the present preschool education curriculum are more focused on formal education that emphasizes academic achievement of preschoolers (Rohaty, 1984, Aliza Ali, Zahara Aziz & Rohaty Majzub, 2011). The emphasis contradicts with the specialists' view on child development (Vygotsky, 1967; Fortson & Reiff, 1995; McAlister & Peterson, 2012) who often emphasized that comprehensive children development through creativity and aesthetic construction should be raised in the process of teaching and learning in preschool education.

Thus, in the process of creating an innovative society that is viable in a challenging environment which further lead to well-being of society and country, such vigorous effort should be carried out in a prudent and systematic manner as well as going through appropriate process (Wellman, Cross & Watson, 2011; Dore & Lillard, 2015). The endeavor aims to generate individuals with innovative ability whereby characters of a creative innovator must exist within individuals and in order to nurture creative individuals; there should be ability to imagine.

This study is mainly to identify consensus by experts on appropriate activities to enhance the development of preschool children's imagination through the use of musical instruments. The main objectives of this study are to explore and understand related activities to improve preschool children's imagination through musical instruments.

3. Research Design

This exploratory study uses qualitative method to provide further understanding on the area being investigated. The use of qualitative method is appropriate for this study because it is an attempt to understand the phenomenon of interest from the participant's perspective rather than the researcher's (Creswell, 2014). In order to obtain an in-depth understanding of teachers' conceptions on imagination in creativity development and their beliefs about the best way to promote imagination in the classroom, the nominal group technique (NGT) was used to structure each focus group meeting (Delbecq, Van de Ven, & Gustafson, 1975). NGT is a strategic and effective means of harnessing social facilitation processes so that group productivity on a given task is optimized (Forsyth, 1990). Prior to an NGT meeting, it is important to understand the informational needs to be addressed along with this procedure. Once the objectives are well understood, focus should be given on structuring questions posed to the group because wordings and grammatical structure of the questions will affect the levels of abstraction, breadth, and depth of the elicited responses. According to Delbecq et al. (1975), broadly stated or unfocused NGT questions are likely to elicit a variety of responses from respondents who have had varied experiences. Questions should be framed so that participants can generate information that sufficiently conveys their understanding of the issue under study.

3.1 Sampling

Subjects of this study consisted of nine preschool teachers who were purposively selected from nine government schools. As Denzin and Lincoln (1994) put it, many qualitative researchers employ purposive rather than random, sampling methods. Within the context of this study, the teachers were purposely selected because they might show differences in ideas, beliefs and practices due to their different characters in personality and physical settings.

3.2 Data Collection Methods

Nominal group technique (NGT) is a structured variation of a small-group discussion to reach consensus (Frankel, 1987). NGT gathers information by asking individuals to respond to questions posed by a moderator, and later ask the participants to prioritize ideas or suggestions of all the group members (Fink, Kosecoff, Chassin, & Brook, 1984). The process prevents the discussion from being dominated by a single member, encourages all group members to participate, and produces result in a set of prioritized solutions or recommendations that represent the group's preferences.

NGT is a good method to gain group consensus, for example, when various people (program staff, stakeholders, community residents, etc.) are involved in constructing a logic model and the list of outputs for a specific component is too lengthy therefore the list has to be prioritized (Frankel, 1987; Gallagher, Hares, Spencer, Bradshaw & Webb, 1993). In this case, the questions to be considered are: "Which of our outputs listed are the most important for easier goal achievement and

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easier measurement? Which of our outputs are less important that make us difficult to achieve our goal and make it more difficult for us to measure?"

The Four-Step Process to Conduct NGT

1. Generating Ideas:

The moderator presents questions or problem to the group in written form and reads the question to the group. The moderator directs everyone to write ideas in brief phrases or statements and asks them to work silently and independently. Each person silently generates ideas and writes them down.

2. Recording Ideas:

Group members engage in a round-robin feedback session to concisely record each idea (without debate at this point). The moderator writes an idea from a group member on a flip chart that is visible to the entire group, and proceeds to ask for another idea from the next group member, and the process continues. Repeat of ideas is unnecessary; however, if the group members feel that a particular idea provides different emphasis or variation, they are free to include the idea. The process is carried out until ideas of all the group members have been documented.

3. Discussing Ideas:

Each recorded idea is later discussed to determine clarity and importance. For each idea, the moderator asks, "Are there any questions or comments that group members would like to make about the item?" This step provides an opportunity for members to express their understanding of the logic and the relative importance of the item. The creator of the idea need not feel obliged to clarify or explain the item; any member of the group can play that role.

4. Voting on Ideas:

Individuals vote privately to prioritize the ideas. The votes are tallied to identify the ideas that are rated highest by the group as a whole. The moderator establishes what criteria are used to prioritize the ideas.

4. Findings

Findings were obtained from 11 experts involved throughout the NGT process. This process uses one set of seven Likert scale questionnaire that consists of a list of 16 activities sorted from previous literature review and need analysis. Table 1 show the list of sorted activities which are as follows.

Table 1: Proposed Activity List

Proposed Activity List
Playing the musical instruments to children.
Describing the musical instrument being played
Having a question and answer session (Q&A) with the children about musical instruments
Showing pictures related to musical instruments
Showing materials related to musical instruments
Making motion related to sound of musical instruments
Talking about existing experience related to musical instruments
Making movement on the existing experience related to musical instruments
Singing while playing a percussion

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Playing a role based on musical instruments
Playing percussion instruments independently
Exploring environment that has to do with musical instruments
Creating a scrapbook on musical instruments
Forming objects using dough / Lego/ block / sand / puzzle based on the sound of musical instruments
Creating visual art activities (origami / collage / painting / shaping / coloring / drawing / painting / weaving / diorama etc.) based on musical instruments
Creating a play/pantomime based on musical instruments

The experts need to choose their agreement level on all of the activities listed. Next, the total of agreement level by the experts for each activity is calculated to determine the activity ranking that need to be carried out first. The total approval is as shown in Table 2.

Table 2: Expert's Voting and Ranking

Proposed Activity List	Total	Ranking
Playing the musical instruments to children.	74	6
Describing the musical instrument being played	72	14
Having a question and answer session (Q&A) with the children about musical instruments	76	1
Showing pictures related to musical instruments	74	7
Showing materials related to musical instruments	75	2
Making motion related to sound of musical instruments	75	3
Talking about existing experience related to musical instruments	74	8
Making movement on the existing experience related to musical instruments	74	9
Singing while playing a percussion	74	10
Playing a role based on musical instruments	75	4
Playing percussion instruments independently	75	5
Exploring environment that has to do with musical instruments	72	15
Creating a scrapbook on musical instruments	71	16
Forming objects using dough / Lego/ block / sand / puzzle based on the sound of musical instruments	74	11
Creating visual art activities (origami / collage / painting / shaping / coloring / drawing / painting / weaving / diorama etc.) based on musical instruments	73	12
Creating a play/pantomime based on musical instruments	73	13

Table 3 shows a list of activities that have been sorted according to ranking as determined by the experts.

Table 3: List of Activities After the Nominal Group Technique (Ngt) Process

List of Activities After the Ngt Process
Having a question and answer session (Q&A) with the children about musical instruments
Showing materials related to musical instruments
Making motion related to sound of musical instruments
Playing a role based on musical instruments
Playing percussion instruments independently
Playing the musical instruments to children.
Showing pictures related to musical instruments
Talking about existing experience related to musical instruments
Making movement on the existing experience related to musical instruments
Singing while playing a percussion
Forming objects using dough / Lego/ block / sand / puzzle based on the sound of musical instruments
Creating visual art activities (origami / collage / painting / shaping / coloring / drawing / painting / weaving / diorama etc.) based on musical instruments
Creating a play/pantomine based on musical instruments
Describing the musical instrument being played
Exploring environment that has to do with musical instruments
Creating a scrapbook on musical instruments

5.   Conclusions

The nominal group technique (NGT) is a group discussion technique to reach consensus for problem solving. In this study we believe that teachers are in position to either enhance or inhibit development of children's imagination, thus they should make an effort to promote imagination in the classroom. Group discussion on our main ideas has been implemented in a structured, systematic and creative manner. For evidence through NGT, we have managed to encourage each group members who are actively involved to think, produce ideas or opinions without influence of others. They have also managed to examine every idea, formulate and make priority of objectives. The idea that gets the most votes will be taken as group decision. In some circumstances, if the idea was considered unsatisfactory, we will repeat the selection process until majority of the group members are satisfied to achieve the best ideas and to produce the best quality. It is our hope that the activities proposed in this paper could realize our aim to promote children's creativity through the power of imagination.

After the completion of the process described above, we thought that NGT is appropriate in order to get the best idea to undertake a study or solve issues on education. This is because the NGT has been able to reduce the dominance of opinion by experts who have a higher status and aggressive. We found that all the members of the panel have the same opportunities. The group is also aware of the objectives to be formulated, as well as making evaluation or critique of the topic being discussed. In addition, we were also able to develop a democratic and creative atmosphere, and reducing inefficiencies during the discussion.

However, there were also drawbacks of the NGT in this study. We are aware that the selected panel have a lot of experience and well versed in the discussion on teaching and learning issues. Therefore it is also quite difficult for them to reach consensus on an alternative at a final decision. This is because the whole process is more time consuming, lengthy and long. Furthermore, each of the 11 selected panels has unconsciously presented their different interests during the discussion. There was bias in the opinions and proposals that they submitted, but was reduced after the panel voting. The most important of all, the decisions that were mutually agreed (see Table 2 and 3) have proved consensus among them in working together to implement and achieve the best results to enhance creativity and imagination of young children.

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