# Creativity in Preschool Assessment

## Salzuriawani Binti Ridzwan[1] and Siti Eshah Binti Mokhsein[2]

Faculty of Education and Human Development[1,2]
Sultan Idris Education University, Malaysia

**Abstract**

Creativity is one of the assests for developing countries to move towards industrialized nations. Therefore, elements of creativity should be developed from preschool level. Based on the findings from the literature in 2000-2016 on elements, criteria, process, products, and creative behaviors, a set of elements for creative assessment for preschool education was identified. These include inventiveness, authenticity, originality, flexibility, fluency, and imagination. This is useful to be used in a later study on how teachers incorporate creativity elements in designing creative assessment.

Keyword: Assessment, Creativity, Creative Assessment, Preschool Education

**Introduction**

Early childhood education is the pillar to the effort in establishing quality human capital and focusing on their early education is a strategy that can have a big impact on the long term. Therefore, every child should be given the opportunity for preschool education (Marziaton, 2012). Early childhood education is an important stage in preparing children for primary school (Mundia & Mundia, 2007). Preschool is an institution to prepare children to enter the social environment. Preschool classes can be regarded as a preparation to enter elementary school years. Preschools in Malaysia usually involve children as young as four to six years (Mustafa, Yunus, and Azman, 2014).

Children aged four to six years old have to be developed in line with the national and society aspirations, inline with the National Preschool Curriculum Standards. Physical, emotional, spiritual, intellectual and social learning environment that are safe and nourishing, as well as educational activities that are fun, creative and meaningful can help develop children in a holistic and integrated way (National Preschool Curriculum Standards, 2010). These are essential to develop the skills, instill confidence and create positive self-concept among children so that they are ready to face further learning and challenges.

Assessment is usually made after each lesson based on learning outcomes; parallel to the National Preschool Curriculum (2010). To ensure mastery of skills stated in the learning outcomes, teachers conduct various learning activities, use variety of teaching aids, and assess students' learning using various methods.   Assessment of teaching and learning must start from the beginning, during and at the end of the lesson. All the information gathered during the process of teaching and learning will provide information about children's mastery (Abdullah, 2004).

The National Pre-School Curriculum Standard (2010) stipulates that assessment is a process that involves a variety of methods to get information about the development and learning of students. It is a fundamental and important part of the learning process which is carried out continuously. The purpose of the assessment is to track the growth and development of students overall. These include i) detect the growth of students in accordance with age, ii) identify students' potentials and enhance the development holistically, iii) identify strengths and weaknesses in learning, iv) provide feedback to students, parents / guardian and school administrators about students' development and learning, and v) evaluate the effectiveness of teaching-learning processes and the environments. The results of the assessment can be used to help teachers to plan follow-up measures to develop students to an optimum level of cognitive, affective and psychomotor learning, as well as helping students and teachers to improve their teaching.

One of the objectives of the National Preschool Curriculum Standard is to inculcate critical thinking, creative and innovative and problem-solving skills in learning and everyday life of the young learners. The curriculum focuses on six pillars namely Communication; Spirituality, Attitudes and Values, Humanity; Self appearance; Physical and Aesthetic Development; and Science and Technology. The pillars support each other and are integrated with critical, creative and innovative thinking (National Preschool Curriculum Standards, 2010). Creativity is an aspect emphasized in the preschool curriculum, and thus needs to be assessed adequately.

Ability or the capability of children is often misinterpreted as an achievement. These errors have substantial implications for the overall implementation of the program associated with pre-school children (Surayah & Haslinda, 2009). Studies highlighted that assessment at pre-school in the country still needs strengthening. Besides, elements of creativity should be incorporated in assessment so that the quality and excellence of pre-school education is assured.

In preschool institutions, children are not graded or tested. They are only tested after they enter the first grade of primary school. How preschool children's achievements are measured and reported are also different from primary and secondary students. Even some of the terms used in the records also are different (Kitano, 2011). This concept paper will identify problems, issues and challenges faced in relation to creative appraisal practice in pre-school education. Besides that, creative assessment is also discussed in depth, including the relevant aspects such as elements, criteria, process, pillars and products.

## Problem Statement

A number of issues arise in relation to preschool assessment. Firtstly, the assessment conducted emphasizes the mastery of reading, writing and arithmetics (3R's). Secondly, assessment and evaluation are conducted formally, where by preschool children are required to sit the test and then will be given a grade and position in class (Rohaty, 2003). Most kindergartens seem to evaluate children based on academic performance. Some children as young as four years old have been subjected to the examination (Balkish, Ali & Cho, 2010). In addition to lack of training, especially in the assessment, knowledge about child development and psychology among teachers, the alignment between

curriculum and assessment are not well-established and assessment does not involve parents in the information collection process (Balkish et al., 2010).

The third issue is the interpretability of assessment results, particularly about students' creativity.  The number of "A's" a student does not reflect his creativity.  According to Robinson (2001) in (Leahy, 2016), each individual has the ability to be creative. Gardner's theory of multiple intelligences is clearly explained that if children have a total range of experience, knowledge and understanding, the way they learn and use their imagination will be different. However, to produce children who are creative requires creative teachers. The handbook of creativity stated that through the teaching and learning of creative and innovative teachers, students can acquire the knowledge, skills and practices and values, and they can develop their creativity and innovativeness (Ministry of Education, 2011). This suggests that teachers need to provide a variety of creative activities, techniques and materials, as well as assessment tasks if we want to encourage creative approaches (Mindham, 2005).

The fourth issue relates to teachers' assessment skills.  According to the study Grace (1992) in Surayah Zaidon (2003), in preschool education, common methods used to assess students are portfolio assessment and observation of activities and behaviors. However, portfolio assessment is not conducted in the correct way, most often is merely compilation of students' work in a file. Content analysis of the portfolio should be based on learning objectives and stages of development.

To perform preschool assessment, teachers should have sufficient skills about portfolio assessment and effective observation of students' activities, behaviors and interaction.  Surayah Zaidon (2003) has identified the problems faced by teachers in the use of the portfolio which include limited training, the big number of children in class, and time needed for assessing students' work and development.

## Objective
The objective of this paper is to identify elements of creativity used by previous studies based on specific models or theories.

## Literature Review
General assessment is the process of collecting and interpreting evidence to make judgments about the quality of student achievement (Atjonen, 2014). According to Surayah & Haslinda (2009) assessment is the process of receiving, determining and providing useful information and analyzed the results of measurement for the purpose of further action. In the process of learning, assessment is the process of gathering information, analysis and decision making regarding changes in children's behaviors or development.

Studies by Norsita Ali Zainal Madon (2014) showed that teachers realize the importance of making sufficient preparation in teaching young children. This study is a qualitative study involving three preschool teachers from Malaysia Education Ministry (MOE) and six children. Interaction of teachers and children in terms of learning style, questioning and teacher responses to the questions or the answers of children were

observed. The findings of this study found that a stimulus is necessary to encourage creative thinking among children. However, many teachers do not pay enough attention to this matter due to lack of monitoring. In general teachers are able to tap the creative thinking of children through teacher-pupil interaction using divergent questions, providing feedback, praises and appreciation. However, teachers prefer to ask closed questions and practice teacher-centered teaching style. Teachers need to be creative and patient in treating children's behaviors especially children who are introvert, having problematic behaviors and learning disabilities. They should be given the opportunity to express ideas and opinions in various ways (Ali & Madon, 2014).

In Turkey, very few studies regarding creativity are conducted in the country. The findings of a study conducted by Simge Alkuş & Refika Olgan (2014) showed that development of children's creativity is not only supported by certain groups of people, it depends on effective cooperation between teachers, parents and school administrators. This qualitative study involved 10 pre-service teachers who enrolled in Bachelor Degree in Early Childhood Education programme and 11 teachers who had been teaching Early Childhood Education for 1-9 years in Ankara, Turkey (Alkuş & Olgan, 2014). This study revealed different definitions of creativity by teachers. Some of them define creativity as originality or authenticity. Some define creativity as 'thinking outside the box' and produce original ideas according to the situation. In addition, they define creativity as interpret or experience life in different ways according to the different viewpoints.

A study conducted by Kitano (2011) has identified assessment practices and the challenges faced by institutions of early childhood education in Japan. The main difference between Japan and other countries is that children in Japan are only tested at a later stage of the primary schools. Another major difference in the early childhood curriculum and assessment in Japan is the absence of specific components related to subject areas such as mathematics, music, and arts but rather focusing on daily lives. In addition, student records are prepared before assessment is conducted.

Among the challenges identified in Japan is parents' expectation of their children to enter prestigious private primary schools. In order to qualify their children to these schools, the children have to undergo an admission test or a qualifying exam. In addition, parents encourage their children to learn English early and force their children to also take an English test (Kitano, 2011).

*Creativity*
Creativity is a big term to be discussed and it is something subjective. Creativity has many definitions. The word 'creative' was derived from the Latin word 'create' which means to make. While in the Greek language, creative comes from the term 'krainein' 'which means 'fulfill'. In English, it comes from the word 'create' or '*cip*ta' in Malay (Mohd Azhar & Kassim, 1996).

The Guidebook of Creativity (Ministry of Education, 2011) defines creativity as the ability of individuals to use the power of imagination, creative ideas and creative thinking to

produce something authentic, original or something of new value, use and meet certain needs. Creativity can be gifted or acquired through learning. Therefore, the definition of creativity is very broad and is not limited by place, space and time to interpret.

According to Torrance (1990), creativity is a process of identifying problems, finding solutions, making hypotheses, testing hypotheses and making decisions. An important aspect of creativity is also fluency, flexibility, elaboration and originality (Torrance, 1979).

In Malaysia, the use of the National Preschool Curriculum Standard (MOE, 2010) is a strategy to improve the quality of preschool education which also emphasizes on the element of creativity and innovation. The Curriculum Development Division (CDD) has developed a Guidebook of Creativity in 2011 as a guideline for teachers to encourage students to be creative and innovative (Ali & Madon, 2014). This entails the notion that creativity should not only occur in teaching and learning, but also assessment.

In the digital age and globalization, indicators of creativity can be expanded with a variety of techniques and approaches in line with national educational goals. In order to produce something creative, it must have the creative intelligence that involves innovation, intuition, imagination and inspiration to produce something new and different (Laili Farhana & Maizatul Conservation, 2014).

This paper will discuss research on creativity from the perspective of different countries. For example, a study in Hong Kong (Hun & Cheung, M.D., 2014) showed that early childhood education in the country still emphasizes on the transmission of knowledge and treasures compliance, discipline and obedience to authority. All values these may conflict with the development of creativity. Most studies related to the introduction of creativity in the Hong Kong school was conducted in primary and secondary level with limited research on creativity in early childhood, although the early years are considered as critical in the development of creativity.

*Issue and Challenges in Preschool Education*
In preschool, informal learning is a concept whereby the goal to be achieved is to develop the potential of children. Surayah and Haslinda (2009) in their book have identified a number of issues and challenges in the assessment of preschool. Lack of clarity of the concept of learning in preschool contributes to the dilemma faced by teachers in pre-school assessment exercises. Observation is one of methods for assessment. It is conducted on children's work and activities, including behaviors and interactions. Observations are recorded using assessment tools such as anecdotal records and checklists. However it was found that the most popular method used in popular preschools is periodic test to measure children's achievement on 3Rs' abilities (reading, writing and arithmetics).

In a study conducted by Sharifah Balkish & Shahrir (2010), training attended by preschool teachers is very little, especially in assessment, with only 11 teachers (20.7%) who have attended training classroom assessment (Balkish et al., 2010). Teachers desperately need extensive training on evaluation and assessment of early childhood. Rashida Banerjee and John L.Luckner (2010) in their study have identified the challenges in implementing

creative assessment. Among them are time constraints. Teachers do not have sufficient time to carry out assessment. Besides that, the lack of parental involvement in assessment remains a challenge that needs to be addressed. Lack of resources or funds to buy materials is another major challenge to conduct assessment.

Based on the literature highlights that have been discussed, researchers were able to identify issues of creativity in preschool education assessment.

## Methodology

The study employs a systematic review of literature. A systematic review is a process to identify all the reliable evidence about clinical problems. It usually involves several steps: 1) consider the question can be answered, 2) identify a searchable database, 3) develop clear search strategies, 4) selecting clear titles, abstracts and manuscripts based on the selection criteria and 5) perceiving data in the appropriate format (Mohamad, Nur Farhana & Rose, 2015). The main focus in the study of this systematic review was to obtain information about assessments and creativity of teachers from published journals through several search engines such as ProQuest electronic search, Routledge, Taylor and Francis Group, ResearchGate and Google Scholar. The search focused on the production of the journal in 2000 - 2016 only. Keywords searched were 'assessment', 'creativity', 'creative assessment', and 'preschool education'. Data collected from the journals were divided thematically. The first theme was the scope of study related to preschool education. The second theme was the methods used to conduct the research related to creativity by theories. Analysis was done to determine the elements of creativity based on theories put forward. Analysis was also conducted to identify issues and challenges of creative assessment in preschool education.

## Findings

The findings from the analysis of literature indicate a number of points to focus on creativity. Among the identified focus are elements, criteria, process, pillar, product, and creative behaviors. Details of findings are shown in Table 1.

**Table 1 (Focus) Element / Criteria / Process / Pillars / Products / Behavioral Creativity**

| Tittle | Theory/Models | Author | Jurnals | Year | (Focus) Elements/Createria/Process/Pillar/Product/Creative Behavior |
|---|---|---|---|---|---|
| Creativity: A Reaffirmation Of Its Place In Early Childhood Education | The Nature Of Creativity | Roy Prentice | The Curriculum Journal | 2000 | Createria of creativity: (a)inventiveness, (b)flexibility (c)exploratory behaviour (d)imagination (e)originality |
| Creativity And The Young Child | (Duffy, 1998, p. 18) | Carole Mindham Senior Lecturer In Primary Education | Early Years | 2005 | It has been suggested that the major tenets of creativity are: (a)the ability to see things in fresh ways; (b)learning from past experience and relating this to new situations; (c) thinking along unorthodox lines and breaking barriers; |

| | | | | | |
|---|---|---|---|---|---|
| Reliability, Validity, and Factor | (Amabile, 1996; Eysenck, 1995; Ludwig, 1995; Simonton, 1994 | Shelley H. Carson , Jordan B. Peterson & Daniel M. Higgins | Creativity Research Journal | 2005 | (d) using non-traditional approaches to  solving problems;  (e) going further than the information given  (f)  creating something unique and original.  Creative achievement appears to be facilitated by a  (a)confluence of varying intrapersonal  (b)interpersonal factors may include familial  Method of measuring of creative achievement-  (a)ratings of existing creative products by experts  or nonexperts  (b)self-report inventories of achievemet |
| Models of the Creative Process: Past, Present and Future | American Psychological Association, Guilford (1950) | Todd I. Lubart | Creativity Research | 2011 | Classic four-stage model  four-stage description of the creative process  (a) preparation  (b) incubation |

| | | | | |
|---|---|---|---|---|
| | | Journal | | (c) illumination |
| | | | | (d) verification. |
| Amabile(1996) | Todd I. Lubart | Creativity Research Journal | 2011 | The creative process is described as consisting of several phases: |
| | | | | (a)problem or task identification |
| | | | | (b preparation (gathering and reactivating relevant information and |
| | | | | resources) |
| | | | | (c)response generation (seeking and producing |
| | | | | potential responses) |
| | | | | (d)response validation and communication (testing the possible |
| | | | | response against criteria) |
| Finke, Ward, And Smith (1992) Advanced | Todd I. Lubart | Creativity Research Journal | 2011 | Geneplore model, in which creativity involves |
| | | | | (a) generative (knowledge retrieval, idea association, synthesis, |
| | | | | transformation, and analogical transfer) |
| | | | | (b)exploratory processes (examination, elaboration, and |

testing of

The preinventive structures lead to creative products:

process may yield highly creative, moderately creative, slightly

creative, and noncreative productions

| | | | | | |
|---|---|---|---|---|---|
| Applying Mackinnon's 4Ps To Foster Creative Thinking And Creative Behaviours In Kindergarten Children | 4Ps of MacKinnon | Vassiliki Riga & Elena Chronopoulou | Education 3-13 International Journal of Primary, Elementary and Early Years | 2014 | 4Ps to foster creative thinking and creative behaviours<br><br>(a)Press,<br><br>(b)Product,<br><br>(c)Process<br><br>(d)Personality |
| Winning the Future: An Investigation Into The Creativity Capacity | Guilford addressed the American Psychological Association in | Keelin Leahy | Creativity Research Journal | 2016 | Divergent and convergent thinking The divergent thinking task was<br><br>adapted from Guilford's paper-and-pencil Alternate Uses Test.<br><br>In the context of the divergent thinking task, the responses |

| Across the Levels of Education in Ireland | 1950 | | | | were scored for<br><br>(a)fluency (number of ideas)<br><br>(b)flexibility (number of categories)<br><br>(c)Creative quotient (CQ) formula |
| --- | --- | --- | --- | --- | --- |
| Development, Use and Implications of Diagnostic Creativity Assessment App, RDCA – Reisman Diagnosti Creativity Assessment | The Reisman Diagnostic Creativity Assessment (RDCA; Reisman, Keiser, & Otti, 2011)<br><br>Torrance Tests of Creative Thinking (TTCT) (Torrance, 1974) | Fredricka Reisman, Larry Keiser & Obinna Otti | Creativity Research Journal | 2016 | 11 major creativity factors that have emerged from the creativity research<br><br>(a)fluency<br><br>(b)flexibility<br><br>(c)elaboration<br><br>(d)originality<br><br>(e)resistance to premature closure<br><br>(f)tolerance of ambiguity<br><br>(g)convergent<br><br>(h)divergent thinking<br><br>(i)risk taking<br><br>(j)intrinsic |

(k)extrinsic motivation

| | | | | | |
|---|---|---|---|---|---|
| Development, Use and Implications of Diagnostic Creativity Assessment App, RDCA – Reisman Diagnostic Creativity Assessment | Torrance Tests of Creative Thinking (TTCT) | Fredricka Reisman, Larry Keiser & Obinna Otti<br><br>To | Creativity Research Journal | 2016 | 4 sets of TTCT verbal criterion tests for fluency, flexibility, and originality |

From the analysis of these findings, the authors concluded that the element of authenticity is a major factor in creativity. The four relevant journals have listed authenticity as an element of creativity. In addition to that, the element of flexibility has also been mentioned in three journals. Fluency element is an element that is also often expressed in the journals concerned. Two journals have listed fluency as elements in creativity. From this analysis the authors also found studies that have more than one main focus of the study. For example, an article entitled Development, Use and Implications of Diagnostic Assessment Creativity App, RDCA - Reisman Diagnostic Assessment Creativity has listed 11 major creativity factors that emerged from the research on creativity. These include a)fluency, b)flexibility, c)elaboration, d)originality, e)resistance to premature closure, f) tolerance of ambiguity, g)convergent, h)divergent thinking, i)risk taking, j)instrinsic, and k)extrinsic motivation.

In another study, the author has chosen the 4Ps of MacKinnon's theory as the main elements of creativity in writing. The 4Ps theory of MacKinnon suggested four components of creativity to foster creative thinking and creative behaviors. These components are (a) Press, (b) Products, (c) Process and (d) Personality. Press refers to creative environment that creates the conditions for creative thinking. Product refers to the ability to create a new, unusual and surprising product that requires social recognition. Process refers involves four stages of preparation, incubation, illumination and verification. A creative process includes the intention of exceeding limitation and boundaries when trying to solve a problem. Person refers to creative pupil who demonstrates interest in questioning, challenging, making connections, identifying relationships, envisaging what might be, playing with ideas, expressing an idea in different ways and finally evaluating the idea.

**Conclusion**

The concept paper has discussed elements of creativity in the preschool assessment. The findings are expected to be used and serve as a guide to teachers in implementing creative assessment in preschool education. However, further studies are needed to explore on creative assessment practices among preschool teachers. Further studies related to elements of creativity and how teachers incorporate them in designing creative assessment.

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**Corresponding Author**
Salzuriawani Binti Ridzwan, salzuriawani@yahoo.com
Prof. Dr. Siti Eshah Binti Mokhsein, eshah@fppm.upsi.edu.my
Faculty of Education & Human Development,
Sultan Idris Education University, Perak, Malaysia

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