Same Theory, Different Day: Inquiry into Preschool Children’s Multiple Intelligence and Aesthetics Ability-

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Abstract

There has been a growing awareness of the children’s aesthetics cultivation proposed by Education Bureau in its preschool curriculum guideline program and its twelve-year public education program. With the prevalence on preschool Multiple Intelligence Instruction and with children’s developmentally appropriate practice, preschool children’s capability in solving problems, aesthetic awareness, exploration, expression, sensibility, creation, appreciation, and responding are highly valued as they are served as the appropriate ways of guiding children asking, knowing and doing. However, with the little research looked into the young children’s capacity of aesthetic ability within the Multiple Intelligence Instruction, this study fills the gap to investigate the young children’s aesthetics ability cultivation, including exploration and awareness, show and creation, responding and appreciation, from Howard Gardner’s Theory of Multiple Intelligences. With on-site questionnaire distribution and collection, the early childhood educators in the Preschool in Kaohsiung City are selected as the research purposive sampling subjects. Total 206 valid copies, out of 250, are retrieved. With SPSS, Factor Analysis, Regression Analysis, and Hierarchical Regression Analysis are utilized for data analyses. The outcomes are concluded that 1. the positive effects of Multiple Intelligence Instruction on children’s Aesthetic Ability Cultivation are partially agreed, 2. the remarkably positive effects of Aesthetic Ability Cultivation on Learning Efficiency are agreed, 3. the positive effects of Multiple Intelligence Instruction on Learning Efficiency are partially agreed, and 4. Children’s Aesthetic Ability Cultivation appears moderating effects on the relations between Multiple Intelligence Instruction and Learning Efficiency. Furthermore, preschool educators’ leading children’s hands-on experience transition into concrete aesthetic sensibility is extremely valued in preschool. At the end, this study tends to provide some suggestions and reference for preschools in implementing Multiple Intelligence Instruction into preschool’s young children’s aesthetics capability cultivation program.

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Introduction

Modern Parents are enjoying offering preschool children the so-called best education, especially for the age before 6, which is the so-called absorbent mind in effectively learn everything. Take the preschool children in Taiwan for example, when their young children are in preschool, parents worried so much about their learning in language, math, logical and creative thinking; therefore, the popularity of cram schools and after school activities are well prepared and almost occupying all the children’s lives. Especially for the high technology advancement, what parents worried more is about their children’s leaning efficiency in music, arts, language, logical thinking, body movement, interpersonal and intrapersonal relationship. With the ignorance of aesthetics capacity atmosphere, education bureau proposes the importance of aesthetics integrating into preschool children’s daily life experiences. The value of infusing aesthetics into young children’s preschool curriculum and family education lies in developing young children’s art potential, exploration and awareness, show and creation, responding and appreciation, healthy personality, and rich exploration in appreciating the world (Armstrong, 1994; Kiese-Himmel, 2012; Barbot, & Lubart, 2012; Rudi Sarah, & Margot, 2006). Especially under the global competition and postmodernism, the educational reform has become a hot issue in Taiwan; the Grade 1-9 Curriculum Guideline has been continuously modified (Education Bureau, 2008; Education Bureau, 2012). Therefore, as Gadner (1993) proposed that the role of teacher not only relied on demonstration, in multiple intelligence instruction, teachers could make great use of the seven ways in reinforcing young children’s specific intelligences. Confronting the diverse characteristics preschool children need to develop, parents are eager to figure out which kind of curricula and instruction would bring high learning motivation and learning efficiency for their children. Therefore, in order to fill the gap of continuously exploring how do children think, construct and solve problems under the aesthetics ability, the research aims to explore the relationship among children’s multiple intelligence learning, aesthetic ability cultivation and learning efficiency. With the positive effect of having learners received the external information, children have more opportunities in organizing physical and logical knowledge through psychological cognition to become real knowledge (Reeves & Reeves, 1997). In NAEYC (1996), the integrating aesthetics into early childhood educational resources becomes the gradual awareness for parents and educators, and also in Ko & Chou (2013), the topic of the combination of aesthetics and children’s learning have becoming the orientations for the enhancement of early childhood educational quality. To summarize, the integration of aesthetic activities into preschool children’s daily life activities under the premise of multiple intelligence theory, preschool children’s learning efficiency could be evaluated from objective perspective. With modern parents’ and educators’ correct attitude in looking at preschool’s learning, preschool children’s learning efficiency are viewed from different perspectives, and hopefully, the learning efficiency in the research would offer some clues for educators to advance our future children toward whole child development.

2. Establishment of research hypothesis and development of conceptual framework
2.1 Multiple Intelligence Instruction

In early childhood education, Gardner (1983; 1991; 1993) defines intelligence as all children are able to have seven ways of knowing. That is to say, preschool children is able to perceive the world and to learn through 1) language; 2) logical-mathematical analysis; 3) visual-spatial representations; 4) musical thinking; 5) the use of the body; 6) an interpersonal understanding of others; and 7) an intrapersonal understanding of self. In the first factor of Music and language part, children’s learning and performance of aesthetics involve several intelligences (Lazear, 1991; Mallonee, 1997) other than only the verbal part utilized in preschool; but teachers can lead preschool children many open-ended questions through the music and language activities. In the second factor of scientific thinking, logical/mathematical intelligence part, it is exemplified by the children’s ability in manipulating symbols and numbers through the recognition and solving new challenges (Phelan, 1994; Morris, 2005; Hanafin, 1999). In aesthetic curriculum, children’s planning for a beautifully themed classroom with peers and teachers could also be kind of the ability to visualize an object, to create internal mental images, and to mentally transform an object from its original image into something newly born pictures (Morris, 2005; Isik & Tarim, 2009; Durmaz, 2005), which belong to Logical-Math in aesthetic area. In the third factor of body/kinesthetic intelligence and social understanding intelligence, the Body and Self Understanding, the role play, and the free play reinforce the connection between multiple intelligence and aesthetics. With the adults scaffolding young children applying multiple intelligence into
daily life aesthetics experience, including music, Logical-Math and Body and Self Understanding (Education Bureau, 2012), children’s interpersonal intelligence of work cooperatively in a group, to communicate verbally and nonverbally would be elevated as well as the ability in self-reflection toward higher reasoning and expressing itself. (Gadner, 1983; Isik & Tarim, 2009; Durmaz, 2005). The role of adults plays a very significant factor in influencing young children’s multiple intelligence learning. With appropriate adult guidance, multiple intelligence instruction for children emphasizes the self-control, divergent thinking, diverse viewpoints, and independent thinking of individuals (Hill & Hannafin, 1997; Northrup, 2001). In terms of the instruction, various types of information like sound, images, texts, and pictures are factors appealing to children’s motivation; they provide multiple information channels and possibilities for creation and innovation. In regard to how to excite children’s learning motivation toward learning efficiency, the way of actively exploring and thinking during learning process would be a key point in guiding children constructing not only physical but also math logical knowledge. The follows are the three basic characteristics on increasing knowledge and enhancing performance. (1) Multiple Intelligence Instruction allows the instruction being delivered to different children in different ways, and further to be reached in different speed and direction. (2) Multiple Intelligence Instruction applies at least seven ways of thinking into preschool daily life aesthetics experience. (3) It focuses on wide learning and play aspects and overpasses traditional trainings.

2.2 Aesthetics in Early Childhood Education

Aesthetics in early childhood education deals with young children’s daily life in the nature experiences, including the nature of art, beauty, taste, and also with the creation and appreciation of beauty (Susan, 2010; Yuan, 2010). Moreover, it is more about the study of sensory or sensori-emotional values, preschool educators sometimes called the aesthetics education as the developing children’s judgments of sentiment and taste. More broadly, scholars in the field define aesthetics as critical reflection on art, culture and nature. That is to say, preschool teachers aim to cultivate preschool children in aesthetic abilities cultivation, including the human perception of beauty, sight, sound, smell, touch, taste, visual and movement. Zheng (2012) proposed that young children have a higher visual thinking characteristics and intuitive feelings in process of reading aesthetics story books. Hence, the ideal of interpersonal communication and interpersonal reflection, knowledge delivered, resource sharing, experience expressing, and emotion exchange have their own aesthetic appeal to young children (Guan, 2010; Harter, Leeman, Norander, Young, & Rawlins, 2008). In early childhood education, aesthetics is the aspect of exploration, creating, and appreciating which most closely relates to art, design, color, shape, texture, contrast, form, balance, cultural references and emotional response to people. Therefore, in preschool children’s curriculum, children are like the artist, the design and technologist, they have great opportunities in making use of creativity and imagination, divergent thinking, personal interests (Yuan, 2010); moreover, they have more inspiration and passion in learning from Nature. Apparently, young children who have unique characteristics and background gradually show their difference in constructing new experiences and innovative knowledge through interactive discussions and knowledge and experience exchange in the Aesthetics activities, including exploration and awareness, showing and creating, responding and appreciation (Chiu, 2010; Wallerstedt, Pramling, 2012). In such colorful learning environment with rich information and resources, aesthetics not simply focus on the completion of learning objectives, but covers the learning of Responding and Appreciations and interpersonal relationship. The entire process also brings the interactive evaluation of learners in the learning environment (Chen, 2010).

2.3 Learning Efficiency


As a consequence, the following hypotheses are established.

H1: Multiple Intelligence Instruction presents significant correlations with children’s Aesthetic Ability.

H2: Children’s Aesthetic Ability shows remarkable correlations with children’s Learning Efficiency.

H3: Multiple Intelligence Instruction appears notable correlations with children’s Learning Efficiency.
H4: Aesthetic Ability Cultivation reveals moderating effects on the relations between Multiple Intelligence Instruction and children’s Learning Efficiency.

3. Conceptual framework

By summing up the above literatures, the conceptual framework for this study is drawn (Fig. 1).

4. Definition of research dimension and design of research method

4.1 Definition of research dimension

4.1.1 Multiple Intelligence Instruction

In accordance with 2012 Taiwan’s bureau preschool curriculum guideline, the aesthetics instruction covers three perspectives, music, Logical-Math, and Body and Self Understanding. In accordance with multiple intelligence instruction, the categories are classified as Music and Language, Logical- Math, and Body and Self Understanding in the study.

4.1.2 Children’s Aesthetics Ability Cultivation

Zheng (2012) proposes that children’s literature is an art form which is very suitable for children to enjoy. In children’s literature teaching, the aesthetic education can enhance their aesthetic perception and imagination, and improve aesthetic appreciation and creativity. The three dimensions adopted in this study are Exploration and Awareness, Show and Creation, and Responding and Appreciation.

4.1.3 Learning Efficiency

Different from traditional instruction, the characteristics of Learning Efficiency in Multiple Intelligence Instruction in this study is adopted from Chien & Liu (2010). Four characteristics include 1. Teacher Characteristic: teachers’ teaching belief, attitude, and instruction model, 2. Children Characteristic: the young children’s accumulated experiences and learning model in using web-based application, 3. Curriculum Characteristic, including the curriculum design, model and principles, and 4 Material Characteristic, covering the aesthetic quality of media.

4.2 Research subject

The early childhood educators and children in the Preschools in Kaohsiung City are distributed questionnaires. Having deducted invalid and incomplete ones from the total 206 valid copies, out of 250 are retrieved. The selected sampled preschools in Kaohsiung City contained eight preschools which have applied Multiple Intelligence Instruction within young children’s learning and play for more than one year.

4.3 Instrument

The Multiple Intelligence Instruction Scale were conducted and adopted from Taiwan 2012 education bureau preschool curriculum guideline, Gardner (1983) The Theory of Multiple Intelligences, Zheng’s (2012)
considerations of three dimensions for Aesthetics Ability Cultivation, and Chien & Liu (2010) measuring elements of Learning Efficiency.

5. Analysis and Discussion
5.1 Factor Analysis of Multiple Intelligence Instruction

With Factor Analysis, three factors were abstracted from Multiple Intelligence Instruction Scale, including Music and Language (eigenvalue=2.116, $\alpha=0.69$), Logic-Math (eigenvalue=1.412, $\alpha=0.71$), and Body and Self Understanding (eigenvalue=1.073, $\alpha=0.82$); the covariance explained achieved 69.271%.

5.2 Correlation Analysis of Multiple Intelligence Instruction and Aesthetic Ability

With Multiple Regression Analysis to test the hypotheses and the theoretical framework, the first regression equation reached the significance ($F=15.012$, $p<0.005$), The second regression equation achieved the significance ($F=20.152$, $p<0.005$), The third regression equation reached the significance ($F=25.177$, $p<0.005$), Table 1. Multiple Intelligence Instruction appeared remarkable effects on Responding and Appreciation, where music, Logical-Math, and Body and Self Understanding showed significantly positive effects on Responding and Appreciation with the significance ($\beta=0.178$, $p<0.05$; $\beta=0.117$, p$<0.05$; $\beta=0.231$, p $<0.05$), H1 therefore was partially agreed.

5.3 Correlation Analysis of Multiple Intelligence Instruction and Aesthetic Cultivation towards Learning Efficiency

With Multiple Regression Analysis to test the hypotheses and the theoretic framework, the first regression equation revealed the significance ($F=29.507$, $p<0.001$), Table 2. Multiple Intelligence Instruction showed the notable effects on Learning Efficiency, where Music, Logical-Math, and Body and Self Understanding presented remarkably positive effects on Learning Efficiency with the significance ($\beta=0.201$, $p<0.01$; $\beta=0.166$, $p<0.05$; $\beta=0.213$, p $<0.001$) that H2 was agreed.

The second regression equation achieved the significance ($F=28.139$, $p<0.05$), Table 2. Aesthetics Cultivation showed outstanding effects on Learning Efficiency, where Exploration and Awareness, Show and Creation, and Responding and Appreciation appeared significantly positive effects on Learning Efficiency, with the significance ($\beta=0.152$, $p<0.05$; $\beta=0.173$, p$<0.05$; $\beta=0.113$, p$<0.05$) that H3 was partially agreed.
Table 3: Hierarchical Regression Analysis of Multiple Intelligence Instruction and Aesthetic Ability Cultivation towards Learning Efficiency

| Independent variable | Learning Efficiency | Multiple Intelligence | | | Model I | Model II |
|-----------------------|---------------------|-----------------------|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------------|
|                       |                     | β                     | Beta                  | ρ               | β               | Beta                  | ρ               |
| Music                 | 2.056**             | 0.201                 | 0.007                 |                 |                 | 1.795*                 | 0.175          | 0.020                 |
| Visual -Aids          | 1.599*              | 0.168                 | 0.024                 |                 |                 | 1.411*                 | 0.138          | 0.039                 |
| Body and Self         | 2.631***            | 0.213                 | 0.000                 |                 |                 | 1.879*                 | 0.173          | 0.017                 |
| Understanding        |                     |                       |                       |                 |                 | 2.008**               | 0.196          | 0.008                 |

Note: * stands for p<0.05, ** for p<0.01.
Show and Creation

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Note: * stands for $p<0.05$, ** for $p<0.01$. *** for $p<0.001$

6. Conclusion, Limitations and Suggestion

With the implement of Preschool New Curriculum Guideline from Taiwan Education Bureau, preschool educators are making efforts in leading children whole child development with normalization teaching and learning. With multiple intelligence theory in new times, educators need to pay more attention in how to advance children building intrinsic learning motivation and long life learning attitude. Aesthetic activities, including storytelling, singing, dancing, music, art-making, role play, drama are recommended to be integrated into preschool children’s daily life activities. With the combination of aesthetic activities and educators’ professional knowledge, children’s learning efficiency could be evaluated in accordance with each individual preschool children.

With the limitation of time, area, research method, and human resource, the questionnaires delivery is adopted. Further, during research period, though the questionnaires delivery percentage is high; however, the preschool educators’ physical and psychological maturity and parents and peers learning influence can’t be entirely controlled. Finally, the aesthetic sensibility naturally performed in natural circumstances suggested to be observed and the data will explain more concise information. The results could only explain the outcomes presented by the instruments in the research.

Aiming at the research outcomes of Multiple Intelligence Instruction, Aesthetic Cultivation and Learning Efficiency of children, the following suggestions are proposed for Preschool Educators and Parents. With the study pays a special attention to the relationship between Multiple Intelligence Instruction, aesthetics ability cultivation, and children’s learning efficiency, the results show that adults’ guidance and scaffolding in preschool children’s hands-on experience to explore, express, create, and to appreciate through their senses are necessary. Further, considering the teachers’ scaffolding process, the understanding of preschool children’s characteristic and learning style do play significant role in evoking children’s daily life aesthetic experience. From the perspective of Gardner’s seven ways of thinking, none of the profiles of intelligence that each child has is the same, and these intelligences can be strengthened with environmental factors. We do hope that preschool children’s Language, Music, Logical-Math, Body and Self Understanding could be on the same pace with the aesthetic experience in preschool. In that case, preschool children’s learning and development in the Early Childhood education contexts will benefit more from the cooperation with parents, teachers and young children, and the building of effective learning and aesthetic cultivation ability would be quality.

References
