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Findings of Visual Arts Research in Early Childhood and Primary Education

ABSTRACT

Arts research was introduced in the field of education during the 1990s by Barone and Eisner, but their methodology is rarely used because it is not considered to be consistent with traditional paradigms of the scientific method. This review identified only seven visual arts research studies in early childhood education and primary education. Four studies were conducted in early childhood education settings, and two of those studies used quantitative methods to investigate the effects of art on early childhood development. The three studies that were conducted in primary education used a case study approach to examine art projects in the community or the classroom. Participation in visual arts was associated with enhanced learning outcomes in other areas and the development of individual and social competences, but it was not found to facilitate the development of age-dependent abilities, such as visual or grapho-motor abilities. Visual arts also proved to be an effective method of communication for children in preschool and primary education institutions because it is easier for them to express their opinions and beliefs to adults with visual media than with words.

Key words: arts-based research, arts-informed research, preschool, primary school

Ugotovitve raziskav likovne vzgoje v zgodnjem otroštvu in v osnovni šoli

POVZETEK

Raziskovanje umetniškega področja sta v devetdesetih letih 20. stoletja uvajala Barone in Eisner, toda njune metode se danes redko uporabljajo, saj niso bile nikoli uveljavljene kot tradicionalne znanstvene metode. Prispevek prikazuje sedem raziskav z umetniškega področja, osredotočenih na likovno izobraževanje v predšolskem in osnovnošolskem obdobju. Štiri raziskave so bile izpeljane v obdobju predšolske vzgoje, dve med njimi sta se ukvarjali s kvantitativnimi metodami raziskovanja vpliva umetnosti na razvoj predšolskih otrok. Tri raziskave, ki so bile izpeljane v obdobju osnovnošolskega izobraževanja, so temeljile na obravnavi posameznih primerov reševanja umetniških nalog na delavnicah ali v razredu. Rezultati raziskav opozarjajo, da je bilo sodelovanje pri likovni ustvarjalnosti povezano z boljšimi dosežki učencev na drugih učnih področjih ter z razvojem njihovih

osebnostnih in družbenih kompetenc, ni pa vplivalo na razvoj sposobnosti, odvisnih od starosti otrok, kot sta vizualnost in grafomotorika. Sodelovanje pri likovnoumetniških dejavnostih se je izkazalo tudi kot učinkovita metoda komunikacije za predšolske in osnovnošolske otroke, saj jim je misli in stališča lažje izražati vizualno kot verbalno, še zlasti v stikih z odraslimi.

Ključne besede: raziskavanje umetniškega področja, raziskave, ki seznanjajo o raziskavah s področja umetnosti, predšolsko izobraževanje, osnovnošolsko izobraževanje.

Introduction

The first research methods for the arts were introduced in the field of education during the 1990s by Barone and Eisner to investigate processes from an artistic perspective that would enable researchers to discuss phenomena that cannot be quantified because of their susceptibility to subjective interpretations and understanding (Rolling, 2013). Research methods in the arts were first discussed only in the context of education, but Barone and Eisner (2012) are now recommending the integration of their methods into social sciences to provide researchers with new perspectives on and methods for reporting and discussing their findings. Research methods for the arts in education have a range of potential applications, such as reporting and discussing the students' art projects and discussing the teachers' reflective practice associated with the arts, but most researchers still prefer to use qualitative methods for planning and conducting their research in art education (Cahnmann-Taylor, 2008).

The purpose of this review is to present the findings of studies researching visual arts in early childhood and primary education, and the potential application of those findings in education will be discussed.

Research Models in Research Methods for the Arts

Research methods for the arts can be categorized as either arts-based research or arts-informed research. Arts-based research is an approach that involves the multi-systemic application of interactive, synthetic, analytic, critical, activist, or creative cognitive processes in the artistic process, with the intent to develop new theories (Rolling, 2013). Arts-informed research is based on qualitative approaches, but it integrates the aesthetic characteristics of artwork, artistic techniques, or professional artists as research objects or participants (Rolling, 2013). The key difference between the two approaches is the role of the researcher in each approach. In arts-based research, the researcher is usually an artist who participates personally in the research process, whereas researchers using the arts-informed research approach are not involved in the processes they are observing.

Arts-based research can be further divided into three basic models, which are distinguished by their definitions of art: the empirical-analytic model, the interpretive-hermeneutic model, and the critical-theoretic model (Rolling, 2013).

The empirical-analytic art-making model defines art as a process of creation, which involves empirical elements and can be controlled to produce one or more desired effects. The interpretive-hermeneutic art-making model defines art as a system of communication and knowledge transmission. The critical-theoretic art-making model emphasizes the role of research in critically reviewing social norms, so art is defined as a method for identifying and communicating problems with the current social situation, values, and norms.

The arts-based approach can be used to answer research questions about subjective phenomena that the scientific method cannot measure and discuss, but most researchers in the arts choose to design their research as qualitative studies based on approaches like case studies, auto-ethnography, or phenomenology (Rolling, 2013). The key difference between Eisner's (2006) arts-based approaches and traditional qualitative approaches lies in the criteria researchers need to consider when making conclusions based on their results. According to Eisner (2006), causal effects can be identified in arts-based research, regardless of the approach used. For example, a case study of N = 1 would normally be considered a descriptive study, but Eisner claims that causal inferences are possible if two criteria are satisfied. First, the researcher must perform structural corroboration, which involves using information and evidence from multiple sources to assess the credibility of the findings. The second criterion is consensual validation, and it refers to the inclusion of colleagues in the data interpretation to ensure that the findings are consistent, regardless of the observer.

Cahnmann-Taylor (2008) argued that most researchers choose to conduct qualitative studies to examine and investigate arts in education because they are not trained to conduct arts-based research. However, the methods of arts-based research have been refined since their conception, and Barone and Eisner (2012) later defined several fundamental ideas of arts-based research, and those ideas list the strengths and limitations of their methods, as well as strategies researchers can use to enhance the credibility of their studies. By including new criteria, such as structural corroboration and consensual validation, arts-based research now follows data collection, analysis, and interpretation procedures similar to those in qualitative research, but it also enhances studies by including an aesthetic dimension and addressing research questions from unique perspectives. For example, visual communication in arts-based research can be used to collect data because participants can communicate a range of meanings using visual media instead of verbal responses, and the interpretation of visual data from artistic perspectives can lead to identifying messages that cannot be transmitted effectively using verbal communication alone.

Literature Search

The ProQuest database and Google Scholar search engine were used to identify and retrieve full-text articles for this review. The literature search was conducted using the search term "arts based research visual arts in [primary, preschool] education." The terms listed in brackets were used separately to conduct independent search queries. The search filters for all searches were set to include only primary source evidence, written in English and published in the previous 10 years (2007–2016).

A total of 23 full-text articles were retrieved and reviewed to determine whether they satisfied the following eligibility criteria: (a) the intervention involved visual arts, (b) the participants were preschool or primary school aged children, and (c) the outcomes observed by the researchers included learning outcomes and/or student competencies. Seven articles satisfied those criteria and were included in the review.

Findings of Visual Arts Research

The methods and results of the seven studies that investigated visual arts in preschool and primary education institutions are shown in Table 1. Four studies were conducted in early childhood settings, and two studies were designed as empirical studies to evaluate the development and learning outcomes in children, based on their participation in art education (Kiese-Himmel et al., 2015; Phillips et al., 2010). One study used the methodology of action research in the arts (Boyd & Cutcher, 2015), and one study reported using the method of intergenerational collaborative drawing (Knight et al., 2016). Three studies were conducted in primary education settings, and all of those studies were designed as case studies to describe and discuss the role of classroom activities and art education programs in the students' learning outcomes (Cuthbertson et al., 2007; Pavlou, 2013; Rolling, 2008).

Table 1: Arts-based Research in Early Childhood and Primary Education

Authors (Year)	Sample	Location	Methods	Findings
Boyd and Cutcher (2015)	Preschoolers (n = 2) and educational workers (n = 2)	New South Wales, Australia	Action research in the arts	Effective visual art programs are characterized by pedagogical approaches that support and facilitate student creativity and social interactions.
Cuthbertson et al. (2007)	4th and 5th grade students (N = 15–30)	Phoenix, AZ, United States	Case study of an educational program	The extracurricular arts program included activities that required creative expression, collaborative learning, and the integration of arts and technology. Students who attended the program achieved the desired learning outcomes and showed improvements in teamwork, creativity, and working with new media.

Authors (Year)	Sample	Location	Methods	Findings
Kiese-Himmel et al. (2015)	Preschoolers (N = 64)	Göttingen, Germany	Empirical longitudinal research	Art education did not have a significant effect on the visual and grapho-motor development of children attending preschool.
Knight et al. (2016)	Preschoolers and their parents	Australia	Intergenerational collaborative drawing	Adults and children learn from one another during collaborative drawing, and children can use collaborative drawing to convey their attitudes to adults.
Pavlou (2013)	2nd grade students (N = 15)	Cyprus	Pilot case study	Observing and discussing visual artwork can have a positive effect on developing creativity, but only if the teacher can engage the students to participate.
Phillips et al. (2010)	Preschoolers (N = 181)	Bethlehem, PA, United States	Empirical quasi-experiment	Using arts to learn about language and reading improves early literacy development.
Rolling (2008)	4th grade students (N = 3)	New York City, NY, United States	Case study of a classroom project	Using visual arts to communicate personal attitudes helps the students develop their identity and communication skills.

Early Childhood Education

Boyd and Cutcher (2015) used interviews to collect data from educators (n = 2) and students (n = 2) in an educational center conducting art education programs for preschool children. They found that the educators relied on communication to learn more about the interests of the children attending their programs, and they used that knowledge to personalize tasks according to the students' interests and provide them with emotional support throughout the creative process. Based on the qualitative data obtained from the educators and children, that approach increased the children's motivation to engage in artistic creation and explore the application of materials and techniques on their own.

Knight et al. (2016) used intergenerational collaborative drawing to determine its benefits and potential applications. They suggest that intergenerational collaboration helps adults reconsider their perspectives on the objects and phenomena they are drawing with children, whereas children have the opportunity to learn by modeling the behavior of the adults and also to communicate their attitudes. The ability to communicate with adults via imagery is an important feature of collaborative drawing because children tend to have a limited vocabulary, which impairs their ability to communicate their attitudes and opinions to adults via verbal communication. Therefore, both adults and children can benefit from collaborative drawing activities.

Phillips et al. (2010) conducted an empirical evaluation of the program *Promoting and Supporting Early Literacy through the Arts*, which was designed for preschool age children to teach them about the integration of visual and performing arts. It was

found that the children showed significant improvements in the fields of linguistics, literacy and creative arts. Those improvements suggested that the integration of arts with other fields of study was a feasible method for enhancing learning outcomes, but the researchers noted the lack of a control group as one of the limitations of their study. Therefore, even though the children's early literacy skills improved compared to their baseline skills, one could not exclude the possibility of attributing that outcome to the progression of normal development.

Kiese-Himmel et al. (2015) investigated the effects of visual art education on the visual and grapho-motor development of children. Children who attended art education programs showed significant improvements in their grapho-motor and visual abilities, but so did the children who did not attend art education programs and were used as the control group. There were no significant differences between the two groups, so it is possible to suggest that some abilities that depend on normal age-related development cannot be significantly affected by external influences in education. However, it is important to note that the abilities researchers can observe directly are not sufficient to justify arts learning. Other studies that examined the roles of visual arts in early childhood and primary education found that the visual arts can have significant effects on the development of student competencies and on achieving learning outcomes.

Primary Education

Cuthbertson et al. (2007) conducted a 15-week extracurricular art education program for primary school students, who participated in various collaborative activities and used new multi-modal media to express their creativity. Improvements in creative expression and team work skills were observed at the end of the program, which supported the researcher's intent to test the utility of their intervention in the curriculum of art education. Based on the observations by Cuthbertson et al. (2007), active participation in the arts as an individual and as part of a team should improve learning outcomes associated with creative and social skills.

Pavlou (2013) investigated the effect of observing visual artwork and participating in discussion of artwork on creativity in primary school children. The results showed that exposure to artwork created by professional artists could improve the creativity of children in their own artistic processes. Furthermore, children who were exposed to different types of artwork started experimenting with materials and techniques they had not encountered before. These results were obtained using the case study approach, so they cannot be generalized to all primary school students, but the findings were consistent with the idea that students have an intrinsic motivation to research new things and learn on their own by modeling their surroundings.

Rolling (2008) documented the results of a classroom art project, in which the students were asked to draw comics with a political theme. Although adults typically believe that children are too naive and misinformed about such topics

to effectively understand and discuss them, Rolling (2008) presented a series of provocative student comics that critically reflected on current political issues and concluded that student opinions were similar to most adults' opinions about political issues. Therefore, children have the ability to understand the world where they live much better than adults think they can, and they can use visual media to express their opinions regarding those topics as well as adults, but there is one condition. Children can express their attitudes and develop their sense of identity through visual communication only when teachers and adults do not confine their attitudes and expressiveness into predetermined frameworks. Freedom to express attitudes is an important assumption that needs to be met so that children can explore their identities and attitudes about the world around them.

Potential Applications of Visual Arts Research in Education

The studies that investigated the visual arts in the context of early education and primary education established various methods that could be used in teaching practice. For example, Knight et al. (2016) identified the benefits of collaborative drawing for adults and preschool age children, and teachers can implement intergenerational drawing by including parents in their children's education or inviting professional artists as guests to their classrooms. However, the applications of intergenerational drawing in the classroom should be further investigated because previous studies did not report conducting those types of interventions in the classroom. It is also recommended that future research investigate the effectiveness of intergenerational collaborative drawing for students in primary education as well as for those at more advanced stages of education.

Art projects in the classroom can be used to facilitate integrated learning by combining arts with other fields of study. Rolling (2008) demonstrated that children have the ability to express their opinions regarding social issues, whereas Cuthbertson et al. (2007) integrated arts and technology to teach students about visual arts and new media, simultaneously. Various artistic fields can also be integrated to improve the children's understanding of multiple creative forms of art, and the topics covered in these programs can facilitate learning outcomes in other fields of study, such as literature or linguistics (Phillips et al., 2010). Based on the findings from current research, art education can be used to support the development of an integrated curriculum and to enhance students' motivation and learning outcomes in multiple areas of the national and school curricula.

Another possible application of visual arts research in education is to enhance learning outcomes associated with the development of student competencies. Contemporary education is concerned with the development of student competencies that are not discipline-specific but that can be applied in any context or situation. Creativity is the most obvious competency that can be used to solve

problems in a variety of fields and can be developed through participation in the arts. The positive effect of arts on the development of communication and teamwork competencies when working with peers was also observed in both early childhood and primary education students (Boyd & Cutcher, 2015; Cuthbertson et al., 2007; Knight et al., 2016). Therefore, findings from current visual arts research in education suggest that arts have an important place in modern education, one which emphasizes integrated learning and student competencies over learning theoretical information and skills separately for each school subject.

Conclusion

The advantage of arts-based research over quantitative and qualitative methods is the ability to examine the research problem from artistic perspectives or to investigate phenomena that cannot be objectively measured using quantitative methods. For example, the role of visual arts in facilitating communication between adults and children or the utility of intergenerational drawing as a teaching method are difficult to investigate with empirical scientific methods. Science focuses on objects and phenomena that can be objectively observed, measured and analyzed, but using art as a communication method for teaching is a subjective experience that warrants the application of different research methods. Some common themes may emerge from qualitative research and can be used to develop a theory, but qualitative methods alone cannot capture all possible nuances of the participants' reported experiences and the artwork they produced.

Current research on visual arts in education focuses on investigating the effects of art on normal development, the development of competencies such as creativity or social skills, and the utility of visual media as a method of communication for children. Although art activities in early education cannot facilitate the development of age-dependent abilities, such as grapho-motor skills, research among preschoolers suggest that arts could facilitate integrated learning in other fields of study. The visual arts were also found to be an effective communication channel between children and adults because it allows them to set aside their differences in verbal communication skills. In primary education, findings from research in the visual arts reported that art education could improve student competencies, such as creativity and teamwork skills, but only if teachers develop curricula and use teaching methods that empower students to research artistic materials and techniques on their own. Consistent with the findings in early childhood education, studies in primary education found that visual expression provides children with an opportunity to clearly express their opinions, which may be difficult for them with verbal communication because they lack the vocabulary to express everything that is on their minds.

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