

Teaching through Arts: Key to Nurturing Innovative Mindsets

Professor Rekha Agrawal*

School of Education, Central University of South Bihar, Gaya, India

***Corresponding author:** Professor Rekha Agrawal, M.Sc.(Chem.), M.Ed., M.Phil., Ph.D., D.Lit. (Edu.), School of Education, Central University of South Bihar, Gaya, SH-7, Gaya-Panchanpur Road, Post: Fatehpur, PS: Tekari, Dist. Gaya (Bihar), India, Pin Code: 824236, Tel: +91 9027169336; E-mail: rekhaagrawalcreative@gmail.com

Received Date: 26th August 2021

Accepted Date: 30th September 2021

Published Date: 08th October 2021

Citation: Agrawal, R. Teaching through Arts: Key to Nurturing Innovative Mindsets. *Innovative Journal of Language, Education & Technology*, 1, 2021, 001.

Copyright: © 2021 Professor Rekha Agrawal. This is an Open Access article published and distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Abstract

Arts have the potential to express what all languages fail to do. Arts provide multiple opportunities to demonstrate in different ways. A number of researches have shown that using arts in teaching enhances the level of learning abilities of students and their performance in school. The integration of visual arts into the teaching and learning of different subjects shows positive improvements in children's creative and critical thinking skills, reasoning abilities and organizing skills. It also enhances skills for exploration and analysis, insights into the challenge, analytic clarity, and problem solving skills of students and helps them to become more comfortable and active participants in group processes. Focusing on developing innovative mindset has become the necessity of present time. Preparing for innovation has been considered one of the most important goals of the education in 21st century for sustainable development. This study aimed to use an art-based teaching-learning programme, the "AAKRITI" (Art And Knowledge Relating Integrated Teaching Initiative), to nurture innovative mindsets. For present study, the AAKRITI programme was implemented on 24 students of middle schools. The 24 prospective teachers who were already trained in using arts in teaching facilitated these students on one to one basis. The findings of this study were determined on the basis of the drawings prepared by the learners, their connectivity with the topic, passages written by the students before and after the drawing preparation, discussions made during the intervention AAKRITI, and the observations of the prospective teachers for their respective learners. Further, the prospective teachers captured students' level of interest and enthusiasm, their process of arriving at new ideas for visualizing the concept in the form of a drawing, making decisions regarding selection of the topic and the objects to be used for the depiction of the concept in art form, use of writing, drawing and other kind of communication skills, and the exhibition of presentation styles on individual basis during the entire process. The results of the study show that the AAKRITI programme raised the level of conceptualization of knowledge of the learners along with their creative, purposeful, collaborative and productive performance level, the main features of an innovative mindset. The students showed interest in all activities.

Keywords: AAKRITI (Art And Knowledge Relating Integrated Teaching Initiative); Art integration in teaching; Innovative mindset; Innovation; Creativity; Collaborative; Productive performance

Arts and Learning

Arts have long been recognized as an important part of a well-rounded education (Ewing, 2010; Wright, 2012; McArdle & Wright, 2014). Ewing (2010) believes that arts have the potential to transform "learning in formal educational contexts, and ensure that the curriculum engages and has relevance for all children". The Road Map for Arts Education conference by UNESCO (2006) reports that learning in and through the arts (Arts Education and Arts-in-Education) can enhance the level of active learning. Learning improves when art is integrated with academics as the integration of art with the central idea allows teachers to provide a profound understanding of art and the world through art (Immanuel Primary School, 2009). Gelineau

(2011) reports that integration of visual arts in children's academics results in showing major effects on their learning abilities and their performance in school. Similarly, the researches focusing on literacy development find that mastering the visual and performing arts can advance students' uses of oral and written verbal forms which increase their literacy learning (Barton, 2014; Barton & Baguley, 2014; Deasy, 2002). The integration of arts into the teaching not only enhances learning but also shows positive improvements in children's thinking skills, reasoning abilities and organization levels (Riley, 2012).

Arts and Innovative Mind Set

In today's technologically intense world, innovation is recognized as one of the most important skills of 21st century. Nurturing innovative mindset has become the necessity of the hour to cope up with the fast changing and the unpredictable world. A person with an innovative mind set constantly looks for new ideas and creative solutions. He exhibits his ability to make important connections and sees things from a different perspective. He possesses the skills to convert ideas into action. He does and demonstrates innovation with critical evaluation. Education researchers identify critical thinking, creativity and collaboration as crucial competencies for a person have innovative mindset.

Existing research in art education suggests that learning in the art often both demands and provides vehicles for alternative ways of examining and communicating important ideas, information, feelings, and understandings (Deasy, 2002). The art may thus provide important opportunities for adolescents to enhance their skills for exploration and analysis and direct them inward, and to develop a positive self-identity and understanding of themselves in relation to the world around them. Researches (Catterall, 2002; Deasy, 2002) identify a range of cognitive capacities engaged in and nurtured by learning in the art, including focused perception, critical thinking, problem solving, elements of creative thinking including fluency, originality, elaboration and abstractness of thought along with and empathy, self-efficacy, etc. Hence, it is believed that 'the art makes a contribution to education that reaches beyond its intrinsic value as direct forms of thinking' (Horon, 2009).

The researches show that during the process of creating an art, the creative process can involve metaphorical thinking, flexibility and visualisation. Research suggests that the role of the young person in arts learning environments may be different from the student role in non-art learning environments—in particular—that the former may be naturally youth-centered (Heath and Smyth, 1999; Stevenson, 2004; Wootton, 2004). In an art learning experience, individual students taught the same artistic skills will create different works of art, not just because of their varying levels of skill mastery, but also because of the unique sets of experiences and ideas they bring to bear in the artistic process (Stevenson, 2004). The student creates something new, something even the teacher cannot create. Greene (2007) also explains that art inspires and allows imagination producing a different "reality" for children.

Art learning experiences engage a set of competencies that define and can influence a child's relationship with others, including peers, teachers, and family (Horowitz and Webb-Dempsey, 2002). The art can strengthen relationships in schools, often involving multiple opportunities for collaboration among students, teachers, visiting artists, and parents, and provide an opportunity, in performances and art shows, for the entire school community to come together (Burton et al., 2000). Studies also show the role of the art experience as a mediating environment enabling students who feel marginalized in other social settings to become more comfortable and active participants in group processes (Deasy, 2002). Research on these settings suggests that these experiences challenge students to work collaboratively, build a sense of responsibility to the group and the project, and to persist

despite anxieties and fears (Fiske, 2000). Students also like the option of expressing their knowledge and abilities through drawing, colouring, painting and creating crafts or models (Dhanapal, Kanapathy and Mastan, 2014) which makes them comfortable in their expression.

Integration of arts in teaching is crucial to helping children become innovative thinkers with a sense of self-motivation for new experiences in the 21st century. In a recent study Seifter, et.al. (2016) report the Art-based Innovation Training to be more effective than the traditional Innovation Training in developing various aspects of a person. They find that the creative and critical thinking skills of High school students, their insights into the challenge, analytic clarity, and problem solving skills bear potential impact of art-based Innovation Training. These students exhibit trust in moving towards a solution. They also report that art-based Innovation Training create greater incidence of applying students' innovation learning experiences to work, school, volunteer and extracurricular activities for them. Participation in the art improves their abilities to concentrate and focus in other aspects of their lives. This research also evidences that Innovation Training through Art enables students to define common purpose appropriately and also to use observational data and transparency in communication effectively. Through these experiences children gain confidence and start to learn that their contributions have value even if they don't have the biggest role. Students perceived their own collaborative behaviours having positive increase after receiving Art-based Innovation training and were able to show emotionally intelligent behavior. Such kind of learning enables a learner to be productive and self-reliant as many of the skills and habits developed in the arts (Deasy, 2002) are similar to those that have been identified by employers as highly desirable (SCANS, 1992).

With this background, present study uses 'Teaching through Arts' approach to explore the possibilities of nurturing innovative mindset of elementary level learners in the following way:

The Study

The present study focuses on a multi-layered and multi-disciplinary art-based teaching programme AAKRITI (Art and Knowledge Relating Integrated Teaching Initiative). In Hindi language the word 'Aakriti' means 'shape' which makes this title self-explanatory. In the present context, it means 'to give shape to any abstract concept'. The AAKRITI is designed to address key educational principles quite effectively and to fulfill the aim of education to prepare a productive, self-reliant and an inclusive society by extending art education beyond the parameters and boundaries of visual arts education and also by integrating teaching of subject content of different disciplines with some degree of interdisciplinary approach. The AAKRITI programme is a comprehensive instructional design which is based on teaching through arts. The AAKRITI proposes meaningful integration of art with knowledge in such a way that a teacher may use various forms of art (all forms of visual and performing arts) in routine classroom teaching to enhance the quality of learning and to make every learner, in some or other way, a creator, an evaluator, a designer, a producer, an innovator, and ultimately a self-reliant person.

This study was guided by the primary question: ‘May AAKRITI programme, by making use of visual arts, nurture innovative mindset by enabling elementary level students conceptualize their knowledge significantly better and express the same in a creative, purposeful, collaborative and productive manner?’ To answer this question, this study was conducted in the following way:

Methodology

The study focused on a sample of 24 students of class VI to VIII from four schools. These students were given the AAKRITI (Art And Knowledge Relating Integrated Teaching Initiative) programme. For the present study, the AAKRITI programme was implemented through pre-service teacher trainees of Four year Integrated B.Ed. Programme by using visual art as a means to teach elementary level students in the following manner:

Step-I

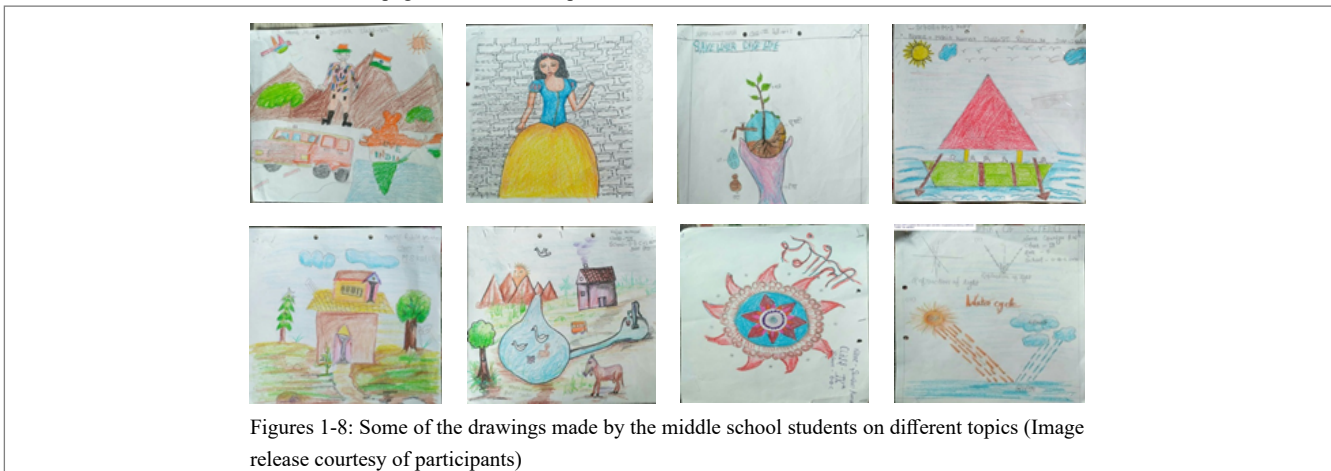
Twenty four elementary level students were selected randomly from the schools. After a warm-up session, these students were asked to individually select a topic of any subject of their own choice which they had already learnt in their routine class and then to write a one page article on that topic.

Step-II

These students participated in the activity conducted under AAKRITI programme organized with the prospective teachers who had learnt the way of teaching through visual art. The elementary class students, after a preliminary orientation, were told to work with the pre-service teachers in one to one ratio. One pre-service teacher and one elementary student worked in pair. The role of the pre-service teacher was to facilitate the learner to make use of art in the desired manner. The intervention started with an ice-breaking activity which facilitated each pair of elementary level student and the pre-service teacher to get acquainted with each other.

Step-III

The AAKRITI programme was started with the preparation of a drawing on the same topic on which the students wrote a one page article. The elementary level students prepared art works individually, on their chosen topic. The teachers (prospective teachers) facilitated respective students to first visualize the concept in an art composition and secondly, to present the same in a creative and innovative way. All students prepared colourful drawings in different styles on their topics. Some of these drawings are presented here in (Figures 1-8).



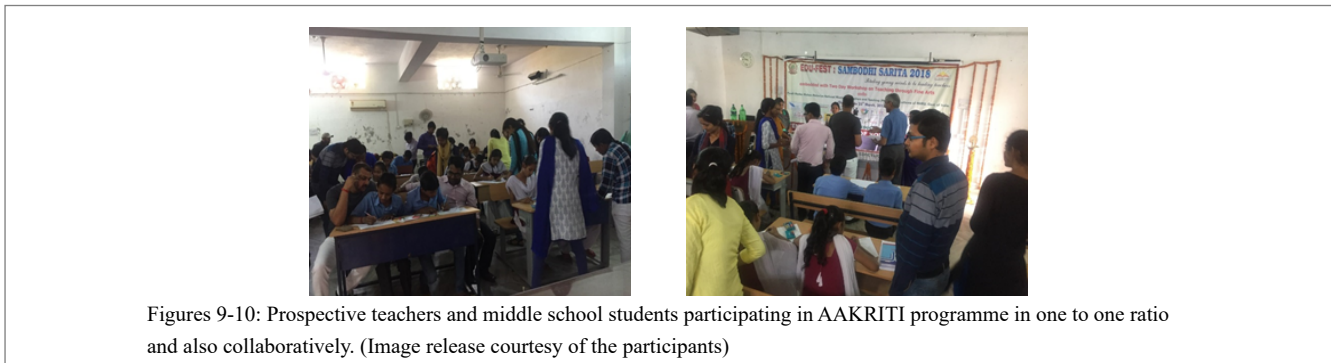
Figures 1-8: Some of the drawings made by the middle school students on different topics (Image release courtesy of participants)

Step-IV

In the next step every student presented his/her art work with an explanation on how that drawing was capturing the concepts which they wanted to express. All presentations were followed by discussions which helped the learners to conceptualize the topic to a greater extent vividly. After having a thorough and intense discussion, the students evaluated their art work to decide what kind of modifications shall be required to make their art work to be more effective for explaining the concept.

Step-V

Then students modified their art work by utilizing their skills in best way. They made few modifications in their drawings to make it more apt on the basis of the discussions and the suggestions. The prospective teachers facilitated the learners on individual basis with questioning and stimulating them to put their vision in that drawing. They discussed with their peers and also assisted each other in making everyone’s drawing more apt and appealing. All students finalized their drawings collaboratively (Figures 9-10).



Figures 9-10: Prospective teachers and middle school students participating in AAKRITI programme in one to one ratio and also collaboratively. (Image release courtesy of the participants)

Step-VI

After finishing their drawings these students were asked to write again a page on the same topic and to submit to their respective prospective teachers. Students wrote again on the same topic.

Step-VII

After these presentations, the students were asked to give their reflections about their experience during the conduct of this study. They were also asked to talk about how AAKRITI had helped them in conceptualizing the topic with better understanding their subject, in arriving at new ideas, and also to

use the idea into preparing the drawing. They also told how it helped them to write on the topic in better way.

Step-VIII

In the last step, exhibition of the products of AAKRITI, the drawings and the write ups were arranged in the respective schools of the learners to encourage other students to do drawings and then to write on their topics. The expressions of the learners and their respective teachers were also captured at the time of the exhibition of their work (Figure 11, Figure 12).



Figures 11-12: Middle school students are exhibiting their drawings and write ups in their respective schools with the prospective teachers (Image release courtesy of the participants)

Findings

The findings of this study were determined on the following basis:

1. Drawings prepared by the learners and their connectivity with the topic.
2. Passages written by the students before and after the drawing preparation.
3. Discussions made during the intervention AAKRITI.
4. Observations of the prospective teachers for their respective learners who captured

- Students' level of interest and enthusiasm,
- Their process of arriving at new ideas for visualizing the concept in the form of a drawing,
- Making decisions regarding selection of the topic and the objects to be used for the depiction of the concept in art form,

- Use of writing, drawing and other kind of communication skills, and
- Exhibition of presentation styles on individual basis during the entire process.

These observations mainly centered on the conceptualization of the knowledge, and the creative, purposeful, collaborative and productive expression of the students during the intervention. Grading of the drawings and the write-ups was done on three point rating scale (satisfactory, good, and excellent) as shown in Figure-13. The collaborative performance of students was observed during the intervention programme.

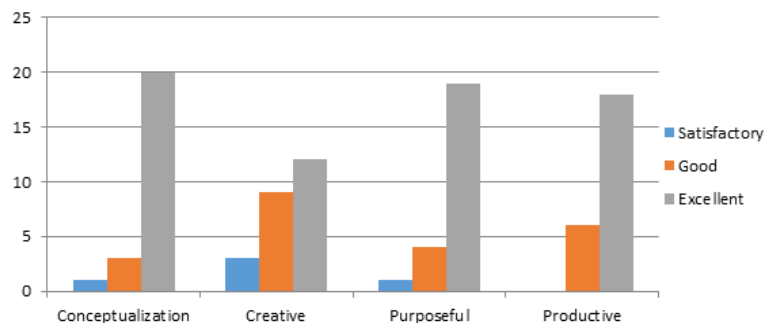


Figure 13: Bar graph for each dimension (Creative, Purposeful and Productive) on three point observation rating scale.

Analysis of the drawings and the write ups showed that in case of 20 students, there was significant difference in the level of the understanding of the subject knowledge. They were able to express the content in more explicit way in their later write ups. After having discussions on how their drawing was connected to the topic, it was found that a deeper understanding of the content of their topic could be generated as they modified their drawings in the light of these discussions. For instance, a student who wrote on refraction and reflection of light rays, she added some diagrams of refraction and reflection of light rays in her drawing after the discussions on the drawing she prepared.

The results on creative performance show that 12 students were highly creative in their both types of expression, the drawing and write up after the intervention, whereas, three students were not found that much creative. One student presented the rainfall and sunrays in such a way that the phenomenon of reflection may be depicted. At the same time, another student very creatively portrayed the phenomenon of water storage by the roots of a plant. Students also expressed their creative in their writings which they wrote after the intervention.

The purposeful performance of these students was assessed in terms of the aptness and connectivity of their presentations with the topic along with the language used. Most of the students were able to show the connectivity of their write ups and drawing with the topic. The result shows that 19 students were excellent in purposeful performance. Only one student had work more on this ground. The drawings prepared by most of the students were found to be connected to the topic which they selected for the passage writing in some or other way. The students used meaningful drawings to depict the topic. For example, a student wrote a passage on 'Our festivals' and she prepared a drawing of 'Rangoli', a colourful decoration on floor which is usually prepared at the time of festival celebration in India. In the same way a student, who wrote on water conservation, prepared a drawing of a plant showing water is stored in its roots. In this way, all drawings were the apt depiction of the topic for which they were prepared.

The content analysis of both the writings on the topic, before and after doing the art work, showed remarkable difference in the language used in case of all students. This difference was seen in the meaningful and sequential presentation of the concept with clarity, and the language and vocabulary used in their writings. For example, a student wrote about the role of army in border security and prepared a drawing showing the flag of India with the backdrop of its territorial places. In the passage, he wrote before the drawing, was not well organized and was lacking in the proper sequencing of thoughts. In the write up on the same topic, after the intervention programme, there were significant modifications in the sequencing of his thoughts on the topic and also in the language he used. It was also found that the level of vocabulary in the post drawing writings was enhanced in all the cases. It was ranging from one word to six words in a passage, varying from case to case. The sentence construction was also improved in almost all the cases. As all the writings were done in Hindi, here, to illustrate, the translated version is presented. In one case, a student wrote in the first draft of his expression, 'Water falls from the clouds.' The improved version of this sentence he wrote was, 'Water comes back on the earth from the clouds when it rains.' In another case, a student wrote in his first writing, 'The prince wants that girl to

marry.' Afterwards, he converted this sentence as, 'The prince fell in love and wanted to marry with that girl.' It was observed that the learners were able to write better sentences after the intervention.

Observation on the collaborative performance was observed when they were revising their drawings after the discussions. Many of them discussed with their peers about the aptness of drawing and some took help of the students those who were good at drawing to make their drawings more meaningful. For example, a student who wrote on the role of army in border security took help in drawing the map of India. This difference was also observed while the students were sharing with their peers during discussions. The students were also found giving their inputs to enhance the quality of other students' presentations.

The productiveness of the students was of high level as 18 students were rated at excellent level and the performance of the rest six students was also good. The presentation of drawings and the write ups of post intervention phase were of quality. Students also arranged the exhibition of their work in their respective schools with the help of the prospective teachers and also encouraged other students of the school to work in the same manner. This showed their value for the work.

During this period, it was observed that their speaking skill was used and their level of confidence could be enhanced. The interactions were found fruitful in making their thoughts organized, enriching the understanding of the subject, enhancing their listening and speaking skills. This shows the effectiveness of AAKRITI programme on the enhancement of conceptual learning and communication skills of the participants.

Qualitative analysis of the students' participation and presentations also indicates that the students exhibited high level of interest and enthusiasm during the programme. They were also found acquiring art skills during the entire process of implementation of AAKRITI programme.

The exploration of new ideas, sharing and working together, taking decision, and transforming idea into a relevant presentation by the students showed the workability of AAKRITI in enhancing the learners' skills of creative and critical thinking, decision-making, designing, collaborative working, and producing something significant.

As teachers we have an obligation to treat participants in a respectful and dignified manner; this includes working with children. The AAKRITI programme allows students to present their ideas via multiple-modes of expressions and communication. Barrett, Everett, & Smigiel (2012) also state that use of art enables students to express their ideas in multiple ways.

Findings from this study show that when learners work for preparing a visual art work, relevant to the topic of study, they develop a deeper understanding of the concept as they participated in multi-layered representations of the topic in visual art and written form which has also been evidenced by Barton & Baguley (2014). Moreover, the learners were asked to explore the topic by using a number of visual arts that assisted them in understanding the concept deeply which is often missed from just listening, reading and writing on the

topic. Without providing such opportunities to express knowledge in different ways this understanding would not have been possible. AAKRITI provided space to the learners to think creatively by going 'out of the box' and hence, to explore new ideas to express themselves in the form of art. Donghwy An and N. Youn (2018) investigated the relationships among appreciation of art, inspiration, and creativity and found that the participants with open attitudes toward aesthetic experiences were more likely to be inspired and therefore better able to generate creative solutions. They concluded that appreciating works of art brings about inspiration, which in turn enhances creativity.

The students were also to finalize the art work for presentation which forced them to take a decision by assessing their art works and to choose the most appropriate one on the basis of various criteria. This enabled the students to take a decision independently and appropriately. Decision-making is an important characteristic to be an innovator. This programme is based on using various forms of art and directly assists users to acquire skills of designing and also to get spatial awareness in relation to the conceptualization of the knowledge and relating it to some form of art. This helps the learner to concretize the abstract form of knowledge and to give it a relevant shape. AAKRITI provides the learners opportunities to work together. Working collaboratively is much needed to be successful in furnishing a task completely. In this study, the learners had to learn work together as a group in preparing and presenting their art work with a written form of their expression on the topic effectively to an audience. Public presentation of the done work makes the presenter to be conscious and effortful to be more effective and efficient. AAKRITI generates ample of such situations for public presentations.

Conclusion

The findings of the study exhibit that the integration of art with the subject knowledge in a meaningful manner generates a series of fruitful learning experiences for the learners which enable them not only to conceptualize the knowledge significantly, but also to express the same in a substantial and creative manner, ultimately, to become better learners and innovators. On this basis, at first hand, it may be concluded that the AAKRITI programme enhances the quality of learning among elementary level students, if blended with routine classroom teaching. This study sets out to show the potential of using the arts to create learning environments that foster student skills of creativity and innovation also. It is observed that this focus on teaching practice is important because teachers represent a strong social influence upon the student learner in respect to the ways they motivate and encourage students to apply creative thinking generate new ideas. The results of the study evidence the powerful potential of AAKRITI as an appropriate and much needed teaching design when working with young children. Therefore, the AAKRITI (Arts and Knowledge Relating Integrated Teaching Initiative) programme, the arts-based teaching design, may be incorporated in school education.

References

- 1) Agrawal, R. *Innovating Innovation: Pedagogy for Innovation*. 2018.
- 2) An, Donghwy, & Youn, N. *The inspirational power of arts on creativity*. *Journal of Business Research*, 85, 2018. 467-475.
- 3) Barrett, M., Everett, M., & Smigiel, H. *Meaning, value and engagement in the arts: Findings from a participatory investigation of young Australian children's perceptions of the arts*. *International Journal of Early Childhood*, 44, 2012. 185-201.
- 4) Barton, G.M. *Literacy and the arts: Interpretation and expression of symbolic form*. In G.M. Barton (Ed.), *Literacy in the Arts: Rethorising Learning and Teaching*, 2014. 3-20. Switzerland: Springer International Publishing.
- 5) Barton, G.M., & Baguley, M. *Learning through story: A collaborative, multimodal arts approach*. *English Teaching: Practice and Critique*, 2014. 13(2), 93-112.
- 6) Burton, J., Horowitz, R., & Abeles, H. *Learning in and through the arts: The question of transfer*. *Studies in Art Education*, 2000. 41(3), 228-257.
- 7) Catterall, J.S. *The arts and the transfer of learning*. In R. Deasy (Ed.), *Critical links: Learning in the arts and student academic and social development*. Washington, DC: Arts Education Partnership. 2002.
- 8) Deasy, R. (Ed.). *Critical links: Learning in the arts and student academic and social development*. Washington, DC: Arts Education Partnership. 2002.
- 9) Dhanapal, S., Kanapathy, R., and Mastan, J. *A study to understand the role of visual arts in the teaching and learning of science*. *Asia-Pacific Forum on Science Learning and Teaching*, 2014. 15(2).
- 10) Ewing, R. *The arts and Australian education: Realising potential*. Camberwell, Australia: Australian Council for Educational Research. 2010.
- 11) Fiske, E. (Ed.). *Champions of change: The impact of the arts on learning*. Washington, DC: Arts Education Partnership and the President's Committee on the Arts and the Humanities. 2000.
- 12) Gelineau, R., P. *Integrating the Arts across the Elementary School Curriculum*. United States of America: Wadsworth, Cengage Learning. 2011.
- 13) Greene, M. *Countering indifference: The role of the Arts*. 2007.
- 14) Heath, S.B., & Smyth, L. *Art Show: Youth and community development – A resource guide*. Washington, DC: Partners for Livable Communities. 1999.
- 15) Horon, T. *Why the Fine Arts are Important*. 2009.
- 16) Horowitz, R. & Webb-Dempsey, J. *Promising signs of positive effects: Lessons from the multi-arts studies*. In R. Deasy (Ed.), *Critical links: Learning in the arts and student academic and social development*. Washington, DC: Arts Education Partnership. 2002.
- 17) Immanuel Primary School. *The Arts*. 2009.
- 18) McArdle, F., & Wright, S. *First literacies: Art, creativity, play, constructive meaning-making*. In G.M. Barton (Ed.), *Literacy in the Arts: Rethorising Learning and Teaching*, 2014. 21-38. Switzerland: Springer International Publishing.
- 19) Riley, S. *Shake the Sketch: An Arts Integration Workbook*, US Copyright. 2012.
- 20) Seifter, H., et. al. *The impact of art-based innovation training on creative thinking skills, collaborative behaviours and innovative outcomes of adolescents and adults*. *The Art of Science Learning Report*. 2016. 148.
- 21) Stevenson, L. *The arts and school change*. Washington, DC: Arts Education Partnership. 2004.
- 22) The Secretary's Commission on Achieving Necessary Skills (SCANS). *Learning a living: A blueprint for high performance: A SCANS report for America 2000*. Washington, DC: U.S. Department of Labor. 1992.

[23\) UNESCO. World Conference on Arts Education. In: Creative Capacities for the 21st Century. Lisbon: UNESCO. 2006.](#)

[24\) UNESCO. Road Map for Arts Education. The World Conference on Arts Education. In: Building Creative Capacities for the 21st Century. Lisbon: UNESCO. 2006.](#)

[25\) Wootton, K. Community this and community that. In Smyth, L. & Stevenson, L. You want to be part of everything: The arts, community, and learning. Washington, DC: Arts Education Partnership. 2004.](#)

[26\) Wright, S. Children, meaning-making and the arts. Frenchs Forest, Australia: Pearson education. 2012.](#)

Submit your manuscript at

<http://enlivenarchive.org/submit-manuscript.php>

New initiative of Enliven Archive

Apart from providing HTML, PDF versions; we also provide **video version** and deposit the videos in about 15 freely accessible social network sites that promote videos which in turn will aid in rapid circulation of articles published with us.