A study of an after-school art programme and critical thinking

ABSTRACT

In this article, I discuss an Institutional Review Board-approved, community arts programme that was designed to enhance the critical thinking skills of ten urban elementary children by engaging them in enquiry-based art lessons. I conducted a single group, mixed methods study on a US campus through an undergraduate service-learning, honors course. Eight undergraduate honors students enrolled in the class. The interdisciplinary group of college students consisted of three art education students; a student from the sculpture department, one from social work, and three students from humanities and sciences. All of the undergraduate students had worked with children before and all had an interest in serving the community. To assess the children’s critical thinking gains from the programme, I used qualitative observations and a quantitative critical thinking pre-test/post-test. The results of a t-test showed a statistically significant increase in the children’s average critical thinking scores from the pre-tests to the post-tests (p=.020).

KEYWORDS

critical thinking
art pedagogy
enquiry
service-learning
SUMMARY OF TERMS
I have researched critical thinking and the arts for over five years, and I have published several articles on the topic. In this article, I focus on the following terms derived from my research:

**Critical thinking**: thought focused on evaluating issues or problems with more than one possible interpretation or solution.

**Enquiry-based or open-ended lessons**: classroom activities that require students to solve problems and answer questions that have more than one possible resolution.

**Critical enquiry and analysis**: exploration of a specific piece of art or a body of artwork.

**Creative enquiry**: artmaking that entails expression with visual language (Lampert 2006a).

CONNECTING CRITICAL THINKING AND ART EDUCATION
Critical thinking skills are generally considered a desirable outcome of the educational process. Contemporary scholars have defined the construct of critical thinking as reflective thinking focused on the evaluation of various alternatives (Ennis 2002; Jones et al. 1995; Paul et al. 1997; Perry 1999). Within the literature on critical thinking in general education, there exists a consensus that open-ended, enquiry-based instructional techniques foster critical thinking development in students (Astin 1993; Ewell 1994; King 1990, 1992, 1994, 1995, 2002; King et al. 1998; Tsui 2002). Art education contains a good deal of theoretical and descriptive literature on how enquiry-based pedagogical techniques are often used in K-12 and higher education art classrooms (Amabile 1996; Barrett 1997; Burton et al. 1999, 2000; Cole et al. 1999; Cromwell 1994; Danko-McGhee and Slutsky 2007; Dorn 1999; Eisner 1998; Geahigan 1997; Housen 2001; Hurwitz and Day 2007; Lampert 2006a, 2006b; Stewart 1997; Stout 1999). Using the general education and art education literature on critical thinking as a foundation, I speculated that a community arts programme based on open-ended, enquiry-based art lessons might serve the children in the community by enhancing their critical thinking abilities through art experiences.

With that goal in mind, eight undergraduate honours students and I designed and implemented an enquiry-based art curriculum for ten underserved children from nearby urban elementary schools. The children ranged in age from 8 to 10. Most of the children typically had art class for less than an hour per week in their elementary schools. With our programme, we supplemented the instruction with three additional hours of after school art classes a week. We met with the children for twelve weeks, two afternoons a week, for one and a half hours each session.

DESIGNING THE COMMUNITY ART PROGRAMME
For the first three weeks of the semester, before the community arts programme began, the undergraduate students and I met to discuss readings, lesson plans and teaching strategies. I presented to the students a model for the programme that was based on three components – three independent variables. First, we would provide the children with open-ended, enquiry-based artmaking
lessons; second, the children would have time to talk about artwork with the group; and third, the undergraduates and I would create a friendly, welcoming atmosphere in the classroom. These three components are noted in the critical thinking and art education literature above as the bedrock for enhancing critical thinking abilities in the classroom (Lampert 2006a).

To model the teaching approach for the programme, I designed the first lesson for the children, as an example for the undergraduates. I then presented the lesson to the undergraduates before the programme with the children began. I explained that the ‘Big Idea’ (Walker 2001) of identity would be the focus of each enquiry-based art lesson. Since each child is unique, I explained that the children’s artwork should be an original expression of their identity and ideas. I asked the undergraduates to show the children a variety of cultural exemplars when introducing lessons, but to never suggest the students imitate the examples; rather, I asked them to encourage the children to develop their own personal visual expressions.

The undergraduates then formed three teams to brainstorm ideas for lessons. At least one art education student was on each lesson-planning team. Most of the lesson plans the undergraduates designed started with a PowerPoint® presentation. The PowerPoints® usually included examples by several artists of the artmaking the students would be focusing on, such as bookmaking. During these presentations, the children interpreted what they saw and explained it to the group, as a form of critical enquiry. Also, for most lessons, the children completed worksheets prior to artmaking. For these worksheets, the students sketched or listed ideas for their art prior to creating it. This process also served as critical and creative enquiry, as did the discussions and the artmaking.

What follows is a synopsis of the first two lesson plans we created for the programme. These plans set the tone of the programme. Woven into

Figure 1: Photograph of after-school art programme in session.
the descriptions of the lesson plans are examples of the children’s work, my
general thoughts about the experience, and summaries of the undergraduate’s
written reflections to me about what they thought, observed and heard in
the community art classroom. After the descriptions of the lessons, I offer an
assessment of the programme that I conducted in two ways: one was through
the observations noted above, and the second was with a pre-test/post-test
critical thinking instrument.

IMPLEMENTING AND REFLECTING ON LESSON 1 – INSIDE/OUTSIDE
IDENTITY BOXES

I taught the first lesson to the children. It entailed having the children create
identity boxes that expressed on the outside how they believed people saw
them; and on the inside, how they saw themselves. What makes this lesson
enquiry-based is the fact that the children were not asked to emulate any
other box; rather they were asked to create a box that reflected their own
identity. The sessions also included friendly, enquiry-based discussions with
the group before, during and after the production of art.

The first day of the programme I introduced myself and the undergradu-
ates to the children, and I explained that our group would be making art with
them and talking with them about art and ideas. I read to the children the one
class rule we had, which was: ‘Please treat everyone in the room with respect’.
This rule was posted at the front of the class each day our programme was in
session. I then explained the lesson;

Today we are going to start on an art project called Inside/Outside
Boxes, which are small boxes that you will paint and fill with colours
and shapes. I would like you to make the outside of the box look like
what you think people see about you. Inside the box, I would like you to
use colours and shapes that show how you see yourself.

I then showed my Inside/Outside box, and we talked about it, and we went
into the computer lab to watch and discuss a PowerPoint© of other artists’
boxes. Back in the classroom, before the children got to work, I asked the
children whether their boxes would be like my example box. I was gratified
to hear one child pipe up, ‘No’. When I asked her why, she said, ‘Because
everybody is different’. I reinforced this child’s response with the group, and
at that point I thought to myself, ‘They understand’. But, I was about to see
that transferring that open-ended idea to artwork that others could discern
the meaning of was not very easy for the children.

Before the children worked with the art materials, they listed on a work-
sheet ideas for how they would show on the outside of their boxes what
people see about them. They also listed thoughts about how they would show
in the insides of their boxes what they thought about themselves. We then
provided a wide array of materials to the children to work with, and I also
encouraged the children to bring things from home for their boxes.

From the worksheet responses and the photos of the children’s completed
Inside/Outside boxes, it was evident that the children were not able to easily
transfer their ideas on identity to their artwork in ways that others could easily
see what they meant. For example, Child 1 wrote on his worksheet that people
see that he is ‘funny, sweet, cute, smell good’. And he wrote that he sees himself
as ‘good, smell good, friendly, smart’. On the outside of his box, this boy used
colourful, bright painted shapes. Inside, he placed a toy figure, more painted shapes, coloured marker lines and collaged magazine shapes. Nothing about this child’s imagery readily suggested what he had depicted with the words on his worksheet. And the boy got mildly frustrated with the group during the
discussion – the critical enquiry – about his Inside/Outside box, when none of us readily understood what he had intended to communicate with his box.

Barrett’s (1997) three critical enquiry questions about art: What do I see? What is the artwork about? How do I know?, were the discussion points we tried to use with the children when they talked about artworks. But for the group discussions about the children’s artwork, a child would get in front of the group with his or her work, and often we would only need to ask, ‘What do you see?’ and the children were off and running – eager to have a chance to talk about what they saw in the artwork and what it meant. Sometimes the young students talked over one another, and sometimes they joked rather than give worthwhile interpretations of the piece, but for the most part, we had enlightening discussions with the group.

When we discussed Child 1’s Inside/Outside box and none of us were able to discern what the boy had intended to express with the colours, shapes and forms in and on his box, the boy told us that the top of the box showed a boy with a red cloud coming out of his mouth because he was laughing. He further explained that in the box he glued a paper skull to represent himself as being cool. The toy figure, he said, smelled good. I then realized the boy had tried to illustrate several of the ideas that he had listed on his worksheet. Through the discussion, the group learned a good deal about his artwork, including what the imagery meant to the boy and how he had tried to transform his ideas into images. Our understanding of the boy’s art deepened through the group’s critical analysis of it. This was true with most of the children’s boxes.

With lesson 1, I had witnessed that there were many miscommunications between student artists and their peers as to the meaning of their boxes. I hoped that the mixed signals they got would impress upon the children that things are not always as they appear, and that people often see the same thing in different ways. In other words, I hoped that we were opening the children’s minds to think critically.

IMPLEMENTING AND REFLECTING ON LESSON 2 – COMMUNITY IDENTITY SKETCHBOOKS

For lesson 2, one of the student teams designed a bookmaking lesson. Each of the children bound together a sketchbook with a cover made with a cut paper collage they had each created. The children designed the covers to reflect a facet of their community. The lesson was kicked off by one of the undergraduate team members, who began with,

Today we are going to start a new project called bookbinding. We will work on the covers of the books today and next time we will bind them. For the book cover I want you to represent your neighborhood identity. Can anyone tell me what I mean by neighborhood identity?

The undergraduate team talked with the children about their answers to this question, then showed a PowerPoint® with images of various neighbourhoods and handmade books. Next, as directed by the team of student teachers, the children filled out worksheets about their community and started making the covers for the books.

Many of the children in the programme lived in public housing neighbour- hoods with a great deal of crime. In the PowerPoint® presentation session for lesson 2, they openly talked about disliking the crime and drug use where
A study of an after-school art programme ...

Table 1: Thinking about your community.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Child 2’s response</th>
<th>Child 3’s response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1: When you look out your bedroom window what do you see?</td>
<td>See my friends</td>
<td>I see police</td>
</tr>
<tr>
<td>Question 2: Is there a favourite place that you like to go in your neighbourhood?</td>
<td>Playgrounds</td>
<td>Library</td>
</tr>
<tr>
<td>Question 3: What is your favourite thing about your neighbourhood?</td>
<td>My family</td>
<td>The animals</td>
</tr>
<tr>
<td>Question 4: What is something that you don’t like about your neighbourhood?</td>
<td>Mike</td>
<td>People that shoot</td>
</tr>
<tr>
<td>Question 5: Name something that is special or unique about the neighbourhood you live in.</td>
<td>I run track</td>
<td>Making burgers outside</td>
</tr>
</tbody>
</table>

they lived. When lesson 2 and the discussions about it were over, I compared the children’s artwork with the worksheets and saw that, unlike with the first lesson, some of the young students had been able to transfer their ideas into readily recognizable images.

Table 1 compares the worksheet questions and answers of two children (Child 2 and Child 3). Please note in the table that Child 2 wrote that his ‘family’ was his favourite thing about his neighbourhood. Child 3 wrote that one thing he did not like about his neighbourhood was ‘people that shoot’. If you look at the photos below of the books these two children made, you

Figure 4: Child 2’s book cover.
will see that they both showed safe places on their covers. Child 2 explained that his cover showed a tent in the living room of his house. Child 3 showed a fortress-like castle on his cover. After just two lessons, the children were getting the idea of how to more clearly express their individual perspectives, and to convey meaning with their artwork.

REFLECTING ON THE REMAINDER OF THE LESSONS

The undergraduate student teams created eight more lesson plans for the programme. Each lesson was done on a template that I supplied for the course. The template contained space for a description of how the lesson was enquiry-based. For example, Team 1 created a relief prints lesson plan with the following description: This artmaking asks students to solve the open-ended problem of expressing their individual identity through ‘listening to music, and using line and shape imprinted on foams printing plates to show how the music makes them feel’.

In addition to the lessons noted above, an internationally renowned sound artist, Stephen Vitiello, did a lesson with the children in our programme. Stephen is a member of the faculty at the university where I work. A week before he and his photographer arrived, as per his request, we sat down with the children and we asked each of them to tell us a story. We jotted down the stories and requested that the children think more about them when they went home.

When Stephen arrived, the children were enthralled to see him and the massive sound equipment that he brought with him. He talked to the children about the art of sound and showed them video clips of how movies utilize sound. He then recorded the children telling their stories as the photographer
captured images of them. The following week, Stephen created a sound and photo installation of the children’s stories in the fine arts building on campus. The undergraduates and I walked the children to the opening of the exhibit and they were thrilled to see the large photos of their faces projected on the wall, and to hear the sound mix of their voices emanating throughout the room (Lampert 2008).

Through the course of the programme, we saw a steady increase in the children’s ability to communicate their ideas with words and images. And as the children learned more about themselves, we learned more about the children. I was gratified to read the undergraduate students’ reflections on how their perceptions of the children changed over time. Several wrote that they had not expected the children to be so different from one another. I saw in the reflections that the interactive service-learning programme helped the college students to understand that there is a dynamic diversity among young children. The community service the undergraduates performed opened their eyes to the fact that each child is unique, just as each child’s art in the programme was unique.

**ASSESSMENT OF THE PROGRAMME**

Most of the lessons in our programme were completed over two sessions. Between the two sessions of lesson 1 – the Inside/Outside boxes – we took time out and asked the children to take a critical thinking test geared for elementary students (Bracken et al. 2003a). The children were offered the incentive of free art supplies to take the test and all of them did so. The answers to the test were not known to the children or the undergraduates. At the end of the programme, the children took the test again. The outcome of

![](image)

*Figure 6: Pre/Post Test Graph.*
the *t*-test showed a statistically significant increase \((p=.020)\) in the children’s average critical thinking skills scores over the course of the programme (see figures). This gain in critical thinking ability in the children occurred after just twelve weeks, and it paralleled the gains we observed in the children’s ability to communicate their ideas with words and images. Several undergraduates noted in their final reflections that by the end of the programme the children were far more comfortable with problem solving and analysis when it came to choosing and discussing images that were representations of their identities.

**CONCLUSION AND STUDY LIMITATIONS**

The service-learning programme we created was in a supportive classroom environment that focused the children on art lessons that required open-ended problem solving and critical analysis. The unit on identity that we provided for the children in our community art programme empowered the children to think for themselves, and in so doing, may have enhanced their critical thinking ability. The outcomes of this programme are significant to educational practice because they represent support for the theory that enquiry-based arts curriculum and instruction may enhance the ability of elementary school children to think critically. The results of this programme suggest that amongst the teaching of manual skills, formal elements, and the various other necessary components of most US public school elementary art curricula, units that are interlaced with enquiry may sharpen students’ critical thinking skills just as much as realistic drawing may sharpen their visual acuity.

As this is one of the few empirical studies on critical thinking and elementary art students, a great deal of future research is necessary to determine if the findings of this study will be sustained. This study was limited by the fact that it was a one group study. Future research might replicate the study with a control group.

NOTE: The critical thinking assessment I used in the community arts programme is the *Test of Critical Thinking* (Bracken et al. 2003a). The assessment was created as part of ‘a federally funded critical thinking-based research
project for students in grades 3, 4, and 5’. The test ‘consists of ten short stories or text scenarios, each of which is followed by several multiple choice questions that require students to employ critical thinking, rather than reading comprehension skills, to select correct responses’ (Bracken et al. 2003b: 1). The *Examiner’s Manual* for the test provides assurance that when the test is used as a dependent variable in a study, it is a ‘convenient, reliable, and valid means of conducting individual or group assessments of critical thinking for elementary school students’ (Bracken et al. 2003b: 37). The test is free and available to the public.

**REFERENCES**


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SUGGESTED CITATION

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