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# Efficacy of the Arts in a Transdisciplinary Learning Experience for Culturally Diverse Fourth Graders

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**Abstract**

The aim of this participant observation was to understand the efficacy of a modified International Baccalaureate Primary Years Program for fourth-graders at a public school with a large percentage of language and socioeconomically disadvantaged students. Data collection over a five-month period concentrated on teaching interactions including audio-recorded time samplings and observations of the art and regular classroom instruction, and interviews (formal and informal) with students, teachers, and school principals in addition to photographs, classroom portfolios, and other artifacts. The analysis, coding, and triangulation of data aided in understanding the art specialist and classroom teachers' roles and contributions to the Primary Years Program. A cooperative school environment paved the way for student self-confidence and motivation for learning through (1) opportunities for student choice and decision-making and (2) collaborative, inquiry-based, transdisciplinary, project-based learning. Regardless of demographics, transdiciplinary learning through the arts challenged and motivated students to think and make decisions in collaboration with others, using and valuing the expertise of peers. Regardless of student ethnicity or socioeconomic status, learners felt empowered and enthusiastic about attending school and gained knowledge through inquiry and project-based opportunities. This progressive ideology and practice has the potential to benefit diverse learners in 21st century education.

**Keywords:** IB, Transdisciplinary, Project-based, Art, Diversity.

## Introduction

The International Baccalaureate (IB) Primary Years Program (PYP) originated 19 years ago in Geneva, Switzerland, and was based on the International Baccalaureate (IB) Diploma Program for high school students. The mission of the PYP was to:

> develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the organization works with schools, governments and international organizations to develop challenging programs of international education and rigorous assessment. These programs encourage students across the world to become active, compassionate and lifelong learners who understand that other people with their differences, can also be right. (IBO, 2010)

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Learning in the PYP promotes an overall international-mindedness in the study of arts, science, mathematics, social studies, language, and physical and personal education through school wide curriculum inquiry ideas: Sharing the planet, Who we are, Where we are in place and time, How we express ourselves, How the world works, and How we organize ourselves. Action and Exhibition/Summatives, to be explained later in this paper, are important components of these inquiry directives, as well as the encouragement of desired student attributes and traits such as thinker, caring, and open-minded, to name a few. Yet, schools' implementation of these concepts vary.

Becoming a recognized PYP requires an application process and fee, teacher training, regular program evaluations, and additional qualifications, often a daunting task for schools with limited resources and finances. Progressive administrators can seek and acquire funding to initiate and sustain their school's participation in the program regardless of its demographics and economic status, such as the PYP described in this study.

It is also common for art educators to think that the PYP is similar to the Diploma Program, and only includes exceptional students with a high socioeconomic status (Anderson, 1994; Blaikie, 1994; Frazer, 2005). In contrast, the PYP includes all students such as the participating school in this study, regardless of academic skills and achievement. This could be why research publications that focus on art education in the (IB) Primary Years Program (PYP) are uncommon. Most studies of IB PYPs are outside of art education literature (Humphrey, 2004; Martina, 2005; Stillisano, Waxman, Hostrup, & Rollins, 2011; Twig, 2010) and are particularly sparse in the study of public schools with disadvantaged or minority populations (Frank, 2009; Hemelt, 2014; Humphrey, 2004). One study by Stillisano, Waxman, Hostrup, and Rollins (2011) does identify insights from teacher interviews at ten culturally and socioeconomically diverse PYP and MYP programs in Texas. The benefits suggest "improved professional practice, instructional focus on higher level thinking and learning, cultural awareness, and relevance of student learning" (p. 181). Research presented in this paper attempts to reveal PYP's potential with a similar student cohort, but through an ethnographic approach, enabling the observation and recording of classroom interactions and reflections of teachers and students over a five month period.

The objective of this research is to better understand the role and efficacy of visual arts across the curriculum in an International Baccalaureate (IB) Primary Years Program (PYP) at one public elementary school in the United States with a large percentage of disadvantaged[1] students. Since implementation of the IB program over a three year period (2008 to 2011), there had been steady progress in standardized test scores, fewer discipline problems, and an improved rate and interest in school attendance based on what the Vice-Principal referenced from a 2011 final report to the Care Foundation. According to the Principal, "Kids don't want to miss school. They don't want to be pulled out . . . for a doctor's appointment anymore." Some say, "We're making presentations today," and are gratified that their work is valued. A direct correlation between the IB program and certain positive quantitative measurements in test scores or other factors cannot be drawn, but I believe that this qualitative study offers significant insights into the effectiveness of Westwood Elementary School's PYP. Although some of these findings might be unique to the school's population of students and the teachers' approach to the PYP curriculum, the program's general efficacy suggests it might be applicable to other schools with comparable demographics.

*Participant Observation as Research Methodology*

*Westwood Demographics.* During a five-month study at Westwood Elementary School, of the 75 fourth grade students participating, 55 percent were Latino. Caucasian students included 37 percent of the population, and 7 percent were Pacific Islanders. Of the fourth-graders, 83 percent qualified for the free and reduced lunch program with 55 percent noted as Limited English Proficiency (LEP), and 9 percent needed special education. By the end of the 5th grade only 36 of 80 had attended Westwood since kindergarten due to a high rate of student mobility. The public school is located in Northwest Arkansas, a region with a dramatic Latino population growth over the past 20 years. Since the 2000 Census, the Latino population in the county increased another 143.3 percent (UALR Institute for Economic Advancement, 2011).

## Methodology

Unlike many statistical measurements of school performance, this participant observation[2] concentrated on the teaching interactions where learning took place. The data included audio-recorded time samplings and observations of the art and regular classroom instruction, interviews (formal and informal) with students, teachers, and school principals in addition to photographs, classroom portfolios, and other artifacts.

My analysis of data began with content and comparative analysis[3]. Then, I identified and interpreted how the fourth graders responded to the curriculum and instructional strategies using Strauss and Corbin's (1990) method of data coding and Miles and Huberman's (1994) suggestions for charting categories and axial coding. The triangulation of data (using three or more sources of evidence) aided in understanding the art specialist and classroom teachers' roles and contributions to the PYP program that appeared to affect student learning. I focused on what motivated student learning inside and outside of the art classroom and on the school's approach to PYP curriculum as a transdisciplinary[4] opportunity for students to create deep understanding, the highest level of Erickson's (2007) structure of knowledge, based on Anderson and Krathwohl's (2001) revision of Blooms taxonomy of education objectives, to prepare students for success in the 21st century.

*The IB Program Standards and Uniqueness at Westwood*

The PYP at Westwood had standard transdisciplinary (Nicolescu, 2002) guiding concepts: (a) Who we are, (b) Where we are in place and time, (c) How we express ourselves, (d) How the world works, (e) How we organize ourselves, and (f) Sharing the planet. Within each grade level's units of inquiry, teachers created conceptually based central ideas for enduring understanding based on Arkansas state curriculum frameworks and adapted the transdisciplinary concepts and approaches of inquiry to their learning community.

Westwood Elementary had a modified application of the PYP. Extensive collaboration between classroom and specialist teachers carried unit concepts across disciplines and encouraged student choice in learning. For example, classroom teachers collaborated with students, offering them options for *summative*[5] presentation topics with open-ended format possibilities for how they would present new knowledge. Students were also involved with developing and adjusting the assessment rubric early in the unit. These choices and involvement linked to students' interests and challenged them to think critically and be invested in both learning and assessment. Classroom teachers provided an array of reading resources, library books, Internet sites, field trips, guest speakers, etc., that related to the unit and student reading levels. In the art class, conversations centered on topics that students had explored in their regular classroom and how these related to their artwork. Students learned how art connected to other disciplines and helped them

gain a global understanding. Art curriculum encouraged them to think critically, and create work using personal choices in subject matter, media, and style.

PYP programs list desired student attributes (learner profile) that are referred to and reflected on by teachers and students: inquirer, communicator, caring, risk-taker, thinker, balanced, open-minded, knowledgeable, reflective, and principled. Westwood applied two more: quality producer and community contributor. According to Westwood's Principal "separating them [the roles] out helped to communicate to students and parents." Students' application of them is referenced in their reflections later in this paper.

The units of inquiry that I observed included where we are in place and time, sharing the planet and how the world works. The central idea (lines of inquiry) identified as Westwood's fourth grade units were Features of a region influence human settlement patterns, Humans have a responsibility for the equilibrium of the planet, and Humans predict, impact, and adapt to climate change. Classroom teachers and specialist teachers met regularly to integrate the concepts of transdisciplinary curriculum and to build on Erickson's (2007) enduring understanding. The ultimate goal was to transfer inquiry and deep understanding into a creative student artwork and collaborative or independent project-based presentation in the regular classroom referred to in the PYP as a summative. The summative topics at Westwood were chosen by the students, researched, analyzed, understood, and transformed into a creative format utilizing students' artistic skills, which they developed in art classes, including problem-solving and innovative uses of recycled materials. The process of creating a summative from a central idea through the research inquiry and idea formation gave students opportunities to apply multiple learning styles and cross-disciplinary knowledge, allowing them to use their areas of expertise, as Gardner (2006) referenced in his multiple intelligences theory. Group collaboration involved sharing and learning from others through cooperative learning (Kagan, 2009; Jacobs, Power, Wan Inn, 2002; Putnam, 1998). Teachers and students also had a voice in the development of assessment rubrics for the summative and reflections on them, setting their own goals.

*21st Century Learning at Westwood*

Four important factors in 21st century education that are promoted by PYP programs worldwide were evident at Westwood: teacher and student collaboration, critical thinking, global awareness, and transdisciplinary action. Erickson (2007) asserts, "the survival of a society depends on its ability to respond intellectually and creatively to social, economic, political, and environmental problems" (p. 15). Westwood embraced this focus, and promoted collaboration at three levels, between: (a) the classroom teacher and art specialist, (b) the teachers and students, and (c) the students. All teachers encouraged critical thinking, frequently using open-ended questions in the classroom to guide learning and required students to formulate their own questions. Teachers provided a variety of curriculum resources that included global, national, and local information. Transdisciplinary action took the form of creative formative and summative project-based presentations (comic books, plays, songs, Powerpoints, architectural models, etc.) based on student topics of interest within the parameters of the curriculum concept. These creative demonstrations of knowledge encouraged student peers to empathize with historical or cultural issues and take social, economic, political, or environmental action.

*An Environment That Promoted Self-Confidence and Motivation for Learning*

Faculty and staff mentioned students' change in confidence and motivation since the implementation of the PYP at Westwood. The data analysis indicated that these two factors made significant contributions to learning and are interlinked according to Kitsantas and Miller (2015). Their study of characteristics of students' self-efficacy and

self-regulatory development suggest that "building confidence is an important component of student motivation" (p. 58). Both are addressed below as factors for enhancing learning experiences.

*Self-Confidence*

Self-confidence seemed to emerge through three generalized categories (1) peer support and risk-taking, (2) recognition of multiple intelligences, (3) questions-as-suggestions, and (3) global sensitivity. Insights on these program attributes offer some significant links to self-confidence in this particular IB PYP.

*Peer Support and Risk-Taking*

Self-confidence emerged through peer support and risk-taking. Students affirmed that they helped each other in the art room and in other classes. One said, "The other day when I was in Spanish class, Alicia didn't want to go up there [in front of the class] and I told her if she went up there, I'd go up there with her. And she started feeling more confident about herself. Now, she wants to go up by herself every time." Some students agreed that art increased their self-confidence and risk-taking. One said, "Some people, who are really good at drawing that, [will say] you can just try and you'll probably get it." They concurred that art class helped them to believe in themselves. When I asked them how that happened, one boy said, "Every time I mess up something, I try again. When I get it wrong, I try again and again. So, I never give up." When students succeeded, peers acknowledged it, such as compliments given to a student who won a regional art show. Even though his parents failed to attend the art show or fully recognize their child's accomplishment, most fourth grade students, teachers, and administrators at Westwood did. According to the Principal, students who felt competent in art pridefully used those skills for summative presentations in their regular classroom. Students who transferred to Westwood from other schools claimed that helping each other didn't happen (at the other school). You were an individual on your own without an opportunity to gain confidence. At Westwood, "You're not by yourself and you learn how to work with others." One student said, "When there's a new student, they always need help on stuff. So, I go help them." The art teacher recognized success in student work and encouraged them to share their conceptualizations with others through their art and offer suggestions that were positive and helpful.

In the regular classroom I witnessed students helping each other research, construct props, models, and drawings, and make decisions for their summative from peer and self-critiques based on established rubrics. One student checked out a library book from the public library for another student's summative. They asked for formative feedback from peers, "Should the corn be curled up?" Students who had experience using Powerpoint, or spelling/reading assisted those in or outside of their group collaborations. Students were respectful when others were reading as part of a group summative, and co-presenters helped those who struggled to read. One who independently developed a play for his summative asked other students in the class to act out the parts with him. Through this supportive atmosphere, everyone grew in their ability to read and speak in front of others. Even with the challenges students encountered while reaching collaborative agreements, they realized its real world application, solving problems through collaboration, not in isolation.

*Recognition of Students' Areas of Expertise*

The students' supported each other, and their mutual recognition of peer expertise improved confidence. It was common to see a pat on the back with the comment, "Nice job!" and "That's cool, I like the background color," or asking others for suggestions, "Do

you think I should add buildings here?" They also realized their own successes and areas of expertise. "I like mine now. See the eye? It catches the light." One student told me while working on a summative in their regular classroom, "I'm kind of an artist of cars and air balloons. Haley, she's an artist of people. Me, Jake and Ameliano, we draw cars." Expertise in art was enthusiastically shared with peers. When students studied weaving in art, they collaborated and had team leaders who assisted others. One boy who was the master weaver was proud to tell me that his father taught him to weave purses, etc.

Teachers gave students opportunities to use various learning styles or intelligences. According to Simmons (2001), this type of recognition of students' multiple intelligences can promote self-esteem. According to a classroom teacher,

> During our frontloading and formative assessments for our IB units, as well as during literacy, I expose the students to many different types of learning styles. For example, when teaching the students about global warming, I don't expect them to read the science textbook, answer some questions, and take a test. Instead, we learned some basic information about global warming, as well as about Public Service Announcements [PSAs]. We viewed some PSAs online, and then the students got to choose groups and perform their own global warming PSA. Giving them this freedom allowed for self-expression and the opportunity to combine various learning styles within a group. Some students created posters, others performed a rap or song, while others included some drama.

Teachers agreed that students had more opportunities to show what they learned through various types of activities often requiring a combined group effort of skills/intelligences. Students were also encouraged to be risk-takers and use a variety of learning styles, not stick with the one they do best. A teacher acknowledged that if she had a student who was extremely knowledgeable about the unit's central idea and could best communicate that knowledge through drawing or acting and speaking, she gave them that opportunity, and they felt more competent and valued. The classroom teachers agreed that many students "engage particularly well in visual activities or in the arts because their vocabulary might be lacking if expected to write five paragraphs on a topic." Strengths and weaknesses varied, and were not culturally distinctive, but often reflected home experiences and prior knowledge. Regardless, acknowledgement of students' expertise seemed to improve their confidence and encouraged growth in other skills.

*Teachers Used Questioning and Focused on the Positive*

Teachers' use of questioning and focus on the positive supported self-confidence. Based on evidence in the art and regular classroom and on what the Principal witnessed, teachers avoided giving students negative feedback. Instead of affirming that students were "wrong," teachers used open-ended questions to guide students in learning with thought-provoking questions. Positive feedback and questions-as-suggestions led to deeper comprehension than simply regurgitating information or taking a teacher's specific directive. For example, the art teacher told a student, "This looks really good. If you look at it you've got some interesting choices. What color could you put in here that could really pull this all together?" On another occasion, she said, "How did he [van Gogh] show that it was a sunrise and he was sewing seeds? How did he do that? What did you do when you used tempera paints?" The student responded with a better understanding of his own use of layering colors. A classroom teacher wanted a student to work more on her summative presentation by asking, "How are you going to make it look like a news report? What will make it different from sitting at a table? What props will make it look like a talk show?" Positive reinforcement (and/or suggestions to expand the students' frame of references) often led into questions that prompted further exploration and learning/improvement. This attitude traversed into positive teacher discussions about students. According to the Principal, "They're not talking about what this kid's not doing. They're talking about what

the kid is doing." Students also avoided using the words "wrong" or "right" as a caring approach to learning, one of the desired IB attributes. A student said that they were taught to be caring leaders, "Are you going to say, oh, that's wrong? No. You have to be caring." The teachers encouraged student self-confidence through compliments, recognizing student expertise, and using open-ended questions and guiding suggestions.

*Global Sensitivity Supported A Respect for Diversity*

The caring attitude shared by IB participants translated into international empathy. One student said, "When we were talking about the tsunami disaster in Japan, I told my mom, why are they not caring about Japan anymore? I want to help Japan." Another student responded, "We should help countries, every place and everything, so we can have peace and quiet and not have wars on our planet. We should really help people and animals." Students' work displayed throughout the hallways and in the classrooms reflected cultural diversity. The art teacher introduced artists of Japan, Mexico, etc., while the classroom teachers offered research materials and possible summative ideas reflecting international events or history. From the observed units, Features of a region influence human settlement patterns, Humans have a responsibility for the equilibrium of the planet, and Humans predict, impact, and adapt to climate change students' summatives honed in on concepts of interest. Masdar City (an urban development near Abu Dubai in the Middle East with high quality of life and a low environmental footprint), the Elections in Egypt, and Animals Near Extinction not only revealed international problems, but a global consciousness and positive resolution ideas.

For some, learning about other cultures as an integrated part of the PYP curriculum also encouraged them to feel proud about their own cultural heritage, a natural enhancer of self-value. Many students connected personally with historical events involving cultures other than their own. One teacher mentioned,

> We study events in history, such as Civil Rights, and then read a story about a hate crime against Hispanics in the newspaper, and the students have a great compassion for the African Americans during the Civil Rights movement because they make a connection between the current and past story. . . . it's looking at the differences and similarities between all cultures and getting students to realize we are all human beings.

Visitors also observed a respect for diversity at the school. According to the Principal, 'We had Hispanic kids that came from … [a local high school] and they made the comment when they came in: "The differences are respected here. Everybody's just working together. You're respected, but you're not singled out because you're Spanish or anything else." ' Students valued cultural differences and considered their peers' opinions regardless of cultural background. Even when a newspaper photographer came to the school and wanted to document a group's presentation, a student member said he'd need to first consult others in his group. Students also admitted, "They [teachers] let us stand up and tell what we think."

*Motivation for Learning*

As important as self-esteem is to learning, motivation is necessary to promote a thirst for new knowledge. When students are emotionally involved "they are personally invested and the motivation for learning increases" (Erickson, 2007, p. 11). Offering Westwood fourth graders choices that were personally meaningful (intrinsic motivation), involving them in formative and summative assessment, exposing them to a variety of educational resources, and reinforcing knowledge with experiential activities that encouraged the use of students' areas of multiple intelligences (Gardner, 2006) made them feel valued and motivated. According to the Vice-Principal, "We've worked really hard on the intrinsic motivation for kids . . . . For a child to ever break the cycle of poverty, that there's going to

have to be that internal motivation." And the Principal stated, "Engaging students consistently, letting them make choices and keep them engaged, that within one generation, they can break the poverty cycle and think differently than their parents did and get better results."

*Choice*

There was evidence of choice in the art and regular classroom curricula. One of the classroom teachers stated, "Our IB learning is fun. . . . the kids get to ask questions and their inquiry drives the learning . . . . They have choice, and who isn't motivated by that?" A student said, "We get to choose a project. We choose a fun way to show our knowledge."

Classroom teachers involved students in developing and adjusting evaluative rubrics for summative presentations and choosing a topic from a general teacher suggested list or one of their own related to the curriculum concept. Teachers helped students find multiple research opportunities for learning about their topics (books, Internet sites, magazines, etc.) and allowed them to consider a variety of options for a creative summative presentation format at the completion of research inquiry. Many students revealed their enthusiasm. One said, "You get to pick your project and choose to be by yourself, with a partner, or in a group." Throughout their classroom learning experience, teachers encouraged students to seek a variety of methods or solutions to solving problems.

The art teacher connected with the school-wide curriculum concept, but gave options in art subject matter, style, and media. When studying weather, the class learned about a variety of international artists who portrayed weather in their art, from Louisa Chase to Katsushika Hokusai using a book by Carroll (1996). They critically examined how each artist approached landscape and discussed how particular media contributed to the visual atmosphere. Students chose to create a personal landscape and were given options to choose one of four types of media to best represent their weather (watercolor, pastel, tempera, or printmaking). They discussed advantages of the chosen media with the class through questions such as: What medium might offer the most detail in the landscape, or what medium could you use to blend colors to show storm clouds and tornadoes? One student changed his media choice after discovering that watercolor could not give him the detail he wanted and decided to switch to a relief print. Having choices in art is common, but pushing students to justify an appropriate media choice exceeded skill-based goals promoting higher levels of thinking and problem-solving. Their artwork also led to discussions about local weather reflected in the student work, where they displayed personal experiences with tornadoes and floods.

*Creative Connections*

The classroom or art room sometimes appeared chaotic to an outsider, but it was an environment of pervasive enthusiasm and creative experiential learning. Students discussed their research or plans for a summative working on the classroom floor, in the hallway, or grouped together at a table. Others rehearsed a new song they wrote about global warming. According to a student, "You don't [exclusively] do paperwork. You learn in a fun way. You do fun projects and get to learn more by doing activities." His peer said, "I was in another school that wasn't an IB. We always worked from a book. We never did projects. In this school, it's different. We learn in a fun way. We build stuff. We do summative and really neat stuff." Having fun using their hands and learning at the same time was a consistent response. One student said, "It's fun—That's why it's memorable."

Many 4th-graders reported that art was an important part of their IB curriculum and relating the art curriculum back to the central idea advanced their overall learning. While studying the central idea, Humans predict, impact, and adapt to climate change, students

had the opportunity to connect their personal experiences with tornadoes. Student art prompted discussions of current events in the art classroom and tornado safety. When students made their own weavings in art, the art teacher asked how weather could influence weaving. It could affect cotton crops or animals providing wool. Not only did students connect with the IB transdisciplinary curriculum concept and gain creative problem solving skills as mentioned earlier, they acquired art skills and contextual knowledge that could be applied to their summative.

Instead of relying exclusively on magazine cut-outs for their summative visuals, students felt confident building three dimensional structures out of a variety of materials, often recycled, and drawing or painting pertinent subject matter. Students mentioned that it was more exciting to create something and encouraged them to "grow independent." One student asserted that if he didn't have art, "That would be a disaster. We couldn't do projects and all of that." In art, "we learn more and are able to express our feelings."

Evidence of creative thinking and its applications learned in the art class expanded in the regular classroom. "I always use what I learn in art," said one student. "We don't just work, we do fun things with art," said another. Students responded that art also expanded their ideas and approaches to showing evidence of what they learned. The principals noticed what students learned in art was demonstrated in summative presentations. The Vice-Principal remembered how a special needs student applied his/her knowledge of balance in a visual model of the Gold Rush connecting with the central idea, Features of a region influence human settlement patterns. The art teacher noticed that students were not focused on what they could make, but how they could better express and communicate knowledge. In one classroom, students played a water cycle game with dice to randomly sequence ten places where a drop of water might go. With this information, students had the option of drawing a comic strip or writing a creative story about the travels of their water drop, and at the same time understanding the concept of the water cycle and how it is not always exactly the same sequenced process. All but one student chose to draw an elaborate comic strip and write a humorous script about their travels. Comments from students were, "It's a lot of fun," and "It's entertaining for the class and you learn." I also observed the fourth graders' presentations of maps illustrating their own imaginative planets and reasons why they would want to live or not live in certain areas (pushes and pulls). Students connected their own interests in creating names for their planets (soccer planet, candy planet, etc.) and better understood the concept of push and pull. I experienced the height of enthusiasm in the classroom when students tackled creating a public service announcement about global warming. Within one afternoon, students chose to work with peers they'd never collaborated with and managed to create some of the most impressive public service announcements (PSAs) with props, visuals, and script in a few hours.

One group reported with a Powerpoint on an Indian Ocean tsunami. They mentioned how scientists have claimed that global warming caused glaciers to melt in the polar regions, reducing pressure on the earth and caused volcanoes, earthquakes and tsunamis, and followed up with a quiz game for students. While they were rehearsing, a teaching aide came into the room thinking it was too chaotic, but misunderstood the students' enthusiasm for learning while rehearsing their PSAs. Students admitted that applying the arts to their learning "helps me understand." Another group wrote a song for a music video. According to a peer, "The song makes me remember, because I remember when we had to go down to the music room every morning to practice it to get it right." Students enjoyed making things, especially in their summative (e.g., puppet show, comic book, song, backdrop, drawing, painting, model, sculpture, etc.). One said, "it would be boring with just words on everything," and "some really don't explain with words. They teach more with

pictures." Students used clay for modeling how babies were transported from Vietnam through "Operation Baby-Lift." As part of the central idea, another group constructed houses and landscapes out of cardboard and paper to represent the affects of hurricane Katrina. "We want someone to be excited when they see it," Other concepts represented by creative visuals were the Haiti Earthquake, Gold Rush, Trail of Tears, Vietnam War, Crisis in Egypt, and Slavery. Many agreed that they enjoyed using the arts (drama, visual art, and music) to present knowledge learned, "You could have more fun, add more detail and color, and remember it."

I also recognized the enthusiasm students had for presenting their summative. Most students raised their hand to be the next group chosen to present. When I asked a student why everyone was so excited, she said, "You get to have fun learning, be creative, draw, color, use clay." Although teachers monitored when students had done enough research and planning prior to working on constructing a summative, Savannah anxiously asked if she could start on her summative earlier if she completed all of the research. Even while waiting in line to take school photos, students commented how they wanted to get back to work on their summative. Deciding on an interesting research topic, developing inquiry questions, and collecting information were most challenging for students, but enthusiasm unfolded when they worked on their summative whatever shape or form it took. The Principal affirmed, "When students see you in the hall, they try to pull you in to see they're summative. They're proud of it."

**Conclusion**

This qualitative study of three fourth grade classes at Westwood Elementary School provided supporting evidence of the efficacy of IB methods for disadvantaged students in a modified PYP. In addition to improvements in test scores, discipline and attendance at Westwood since implementation of the PYP, qualitative data gathered during this five-month participant observation revealed factors that might provide a better understanding of the environment, student learning, and how the visual arts contributed to this PYP. Westwood had a positive school environment. Students' work adorned hallways and classrooms. Abundant collaboration and support was evident among teachers across disciplines, among students, and between students and teachers. This cooperative environment paved the way for student self-confidence and motivation for learning. According to Lillemyr, Sobstad, Marder, and Flowerday (2011) and Martin and Dowson (2009), interpersonal relationships and social formats for education are important influences on students' self-concept, motivation, and achievement, as opposed to learning in isolation of the world's problems.

In the midst of a student-centered, cooperative learning environment, factors that seemed to support student self-confidence and motivation emerged. (1) Peer and teacher support encouraged students to be risk-takers. As Community Contributors, students used their areas of expertise in collaborations with each other and in assisting their peers to be confident risk-takers. As Quality Producers, students took pride in their work with an understanding of the time and energy put forth to reach a level of excellence. (2) Education practices went beyond verbal and mathematical to include some of Gardner's (2006) multiple intelligences where teachers and students recognized and appreciated everyone's expertise. (3) Teachers focused on positive formative assessment with the use of questions-as-suggestions to improve student work. (4) Every curriculum concept incorporated universal global connections (climate change, migration, etc.) that made students feel inclusive and personally connected to issues throughout the world regardless of their culture or ethnicity.

With a necessary foundation of student self-confidence, motivation for learning emerged through (1) Opportunities for student choice and decision-making and (2) collaborative, inquiry-based, transdisciplinary, project-based learning. Teachers encouraged students to analyze facts, think critically, formulate questions, and collectively make decisions based on thorough research. Students played an important role in creating assessment rubrics with their classroom teacher, making adjustments near the beginning of each unit of study. Collaborative transdisciplinary learning challenged students to work together using multidisciplinary resources when learning information about a topic of chosen interest and transforming that knowledge into a creative format that made use of the expertise of group members. Many students chose to use their skills and interests in visual and performing arts to show what they learned. According to Stevenson and Deasy (2005), learning through the arts is particularly beneficial for low-income disadvantaged students. The arts "build understanding among diverse groups of students as well as a sense of school community" (p. 4). Regardless of demographics, transdiciplinary learning through the arts challenged and motivated students to think and make decisions in collaboration with others, using and valuing the expertise of peers. Overall, Westwood's approach to the IB PYP seemed to be successful in promoting student self-confidence and motivation for learning, regardless of student ethnicity or socioeconomic status. Learners felt empowered and enthusiastic about attending school and learning through project-based opportunities.

A 21st century education should apply some of Westwood's approaches to building student self-confidence and motivation for learning. Regardless of whether schools follow IB curriculum, many of the strategies found at Westwood are historically represented in constructivist education literature and research. At the heart of the school's educational practice are the teachers' and administrators' value and application of arts integration. According to Young (2009), "By studying and participating in diverse arts activities, students will gain a much-needed global literacy. Such integration is particularly beneficial to student learning in literature, history and language. . . . arts programming consistently correlates with increased academic success among underserved students" (p. 12-13). Many schools serving lower income students need quality arts programs and arts integration to increase self-confidence and motivation for acquiring new knowledge, a foundation for lifelong learning and academic achievement.

*Limitations and Implications*

The limitations in this study are based on the collection and interpretation of qualitative data collected by the researcher from the specific site. Since IB PYP programs vary, regardless of their basic principles for learning, occurrences at Westwood are unique to the school, its administrators, teachers, and students. Findings cannot be generalized. Yet, some aspects of this type of creative inquiry-based, student-centered, project-based learning can benefit culturally and socioeconomically diverse students. Such outcomes might include positive influences on standardized test scores of socioeconomically disadvantaged students (Frank 2009; Hemelt, 2014). Yet, there is still a void in the literature regarding the learning advantages found in IB PYPs for this population. Future qualitative studies are necessary to better understand the complexity of the PYP at the growing number of schools around the world, not just to improve test scores, but to best prepare all students for a world in need of creative global thinkers.

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## Endnotes

[1] The term "disadvantaged" refers to the large number of students at the elementary school on a free and reduced lunch program (FRLP), 83%, and their Limited English Proficiency (LEP), 58%.

[2] A participant observation is a multi-method, multi-person, multi-situation, multi-variable investigation of everyday reality including three stages: data collection, content analysis, and comparative analysis (Pohland, 1972).

[3] Content analysis involves "the process of identifying, coding, and categorizing the primary patterns in the data. . . . analyzing the content of interviews and observations" (Patton, 1990, p. 381) while themes emerged from the data. I used comparative analysis to parse out "the interrelation of these conceptual themes" (Stokrocki, 1986, p. 83).

[4] Transdisciplinary refers to any concept "that which is at once between the disciplines, across the disciplines, and beyond all disciplines" (Nicolescu, 2002, p. 44), as an approach to education that promotes a meaningful understanding of our current world.

[5] Content analysis involves "the process of identifying, coding, and categorizing the primary patterns in the data. . . . analyzing the content of interviews and observations" (Patton, 1990, p. 381) while themes emerged from the data. I used comparative analysis to parse out "the interrelation of these conceptual themes" (Stokrocki, 1986, p. 83).