

THESIS ABSTRACT

Perspectives on Archaeology and the New Ohio Social Studies Curriculum Standards: A Case Study of an Interdisciplinary Approach

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Beginning in the fall of 2004 Ohio teachers probably will be expected to integrate the new Social Studies Academic Content Standards (passed December 2002) into their schedules with little or no formal training in the new subject content. They will be encouraged to use interdisciplinary and constructivist approaches outlined in President Bush's No Child Left Behind Act of 2002. These changes will understandably create challenges for teachers in both time management and curriculum development.

While interdisciplinary and constructivist perspectives on learning have been shown to increase student interest and class participation, teachers have encountered several problems when implementing these techniques (U.S. Department of Education-Office of Educational Research and Improvement 1996). Four main concerns cited in the report are time restrictions, new subject content, unfamiliar teaching techniques, and a need for new student assessment strategies.

This case study examines interdisciplinary teaching strategies presented in the workshop, *An Interdisciplinary Approach to Social Studies Using Archaeological Methodology and Activities*, designed and presented by the investigator through Antioch University McGregor. The workshop provided teacher participants with basic knowledge in archaeology methodology and an overview of Ohio's prehistoric civilizations as outlined in the Social Studies Content Standards. Hands-on experience with archaeology activities and class discussion with teachers from various backgrounds provided the additional confidence to experiment with unfamiliar teaching techniques outlined in the No Child Left Behind Act. The interdisciplinary archaeological activities provided teacher participants with new strategies for integrating the new subject content into their schedules along with new strategies for student assessments.

It was evidenced in the data collected from the workshop that interdisciplinary teaching strategies, which included archaeological activities and methodology, helped teachers gain the knowledge and confidence they needed to better fulfill the educational goals in Ohio's new Social Studies Academic Content Standards.

PERSPECTIVES ON ARCHAEOLOGY AND THE NEW OHIO SOCIAL STUDIES
CURRICULUM STANDARDS: A CASE STUDY OF AN INTERDISCIPLINARY
APPROACH

A Thesis Presented to Antioch University in Partial Fulfillment of the Requirements for
the Masters of Arts Degree

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CHAPTER I

Introduction

A Joint Council consisting of the Ohio State Board of Education and the Ohio Board of Regents began the process of redesigning the Academic Content Standards in 1997. The final draft was adopted in December of 2002 (Ohio Department of Education, 2002). The Ohio Academic Content Standards followed the recommendations of the United States Department of Education. A key factor impacting the new Academic Content Standards for Social Studies was the inclusion of specifically named cultural periods and American Indian Societies in Ohio prehistory including Paleolithic, Archaic, Woodland (Adena and Hopewell), and Late Prehistoric (Fort Ancient). These cultural divisions, introduced at the fourth grade level in the area of People in Societies, have recurring implications throughout the student's academic career. Another subject of importance relating to this study, archaeological methodology, was also introduced at the fourth grade level under the Social Studies Skills and Methods Academic Standard.

A significant legislative initiative that has had an impact on the future of education in the United States is President Bush's No Child Left Behind Education Act of 2002. This Act encourages accountability, flexibility, and choice in the methods that teachers use to achieve their academic goals. Classroom teachers will need alternative educational techniques that will accommodate a variety of learning styles as well as interdisciplinary

tools for the practical application of a wide range of academic skills. In the introduction of the Academic Content Standards for Social Studies, the Ohio Department of Education suggested that "Whenever possible students should have opportunities to learn social studies in real-world contexts .engage in authentic experiences. ---Research shows that learning is enhanced when students make meaningful connections between new information that they are learning and their own experiences. (Ohio Department of Education, 2002, p.2).

The Research Question

The purpose of this thesis was to explore the question, "If what ways can interdisciplinary teaching strategies, which include archaeology activities and methodology, help teachers fulfill the educational goals of Ohio's new Social Studies Academic Content Standards?"

A workshop was designed by the investigator and introduced into the Antioch McGregor 2003 Educational Leaders Seminar Series. The workshop was designed to provide a learning environment that would allow teachers to experiment with interdisciplinary archaeological activities and discuss their concerns with colleagues.

Significance of the Study

Beginning in the fall of 2004 teachers will be expected to integrate the new subject matter (Ohio's prehistoric cultures and archaeological methods) into their schedules with little or no formal training. Along with the new subject content they will be encouraged to use integrative and constructivist approaches in teaching the new curricular material. While these perspectives on learning have been shown to increase student interest and classroom participation, teachers have encountered several problems when implementing these

techniques (Anderson, 1996). The major concerns that the teachers cited in the 1996 study were:

1. Interdisciplinary lesson plans that give equal emphasis to each subject covered in the lesson required extra time and effort for teachers to prepare.
2. The teachers found that it was difficult to design and teach an interdisciplinary lesson that included content outside of their expertise.
3. Many teachers were uncomfortable learning and applying new teaching strategies that were different or contrary to their own experiences.
4. Old assessment procedures for testing student achievements, which emphasized memorizing facts, were inadequate for the new emphasis on problem solving and critical thinking.

One problem facing Ohio teachers when designing lesson plans for the new curriculum will be the lack of historical data on the pre-contact civilizations in Ohio. There are no historical references of any direct contact between European immigrants and the original indigenous inhabitants of Ohio. Therefore, all of our knowledge of Ohio societies before the 18th century is derived from archaeological exploration (Fagan, 2000).

Archaeology is in and of itself interdisciplinary. Archaeologists call on experts in many other disciplines to assist in piecing together the information gained from their explorations. The interdisciplinary nature of archaeology activities and the direct link between archaeology and Ohio's prehistory make archaeology an ideal vehicle for hands-on projects that can allow students engaging, real-life experiences for practicing many academic skills (Smardz & Smith, 2000).

Summary

Additional training will be needed to acquaint teachers with the curricula on prehistoric Ohio and archaeology methodology if they are going to be successful at teaching the material to their students. Strategies are needed for teacher training that will provide an opportunity to explore alternative teaching methods. Participation in a workshop such as the one devised for this study can provide teachers with the knowledge and experience that may build the confidence teachers need to develop creative, interdisciplinary lesson plans that increase student interest and participation. When a teacher is enthusiastic and confident about the subject she/he is teaching that attitude affects the students.

CHAPTER II

Literature Review

This chapter provides a review of the pertinent literature pertaining to the findings of educators as they relate to interdisciplinary education techniques. Literature related to the uses of archaeology as an interdisciplinary tool in social studies education and the value of archaeology activities and methodology in interpreting Ohio's prehistoric cultures and societies is discussed.

Literature Related to Interdisciplinary Educational Theories

Early theorists concerned with education such as John Dewey (1916) noted the value of the interdisciplinary approach as an important element in stimulating the student's motivation to learn. Dewey stated that there is a direct link between knowledge and experience. Whitehead pointed out the practical value of interdisciplinary methods, "in order to understand any one fact, one must understand an infinity of facts" (Whitehead, 1929).

While both early and modern experts agree with the theory that interdisciplinary approaches can increase motivation among students and teachers (Wineburg & Grossman, 2000) practical application has been unsuccessful in many cases. Reasons for this failure include the time needed to develop lesson plans, a lack of knowledge in the wide

base of subject matter, and the tendency of one discipline to become subservient to another.

In October 1996 the U.S. Department of Education: Office of Research and Improvement published the results of a study of curriculum reform that was conducted between the years of 1991–1995 (Anderson, 1996). Its focus was upon an integrated constructivist content that would replace isolated disciplines or subject areas. The students demonstrated an increase in interest and classroom participation. Scores recorded on traditional tests were equal to or better than the scores of students in traditional programs.

The results of the 1996 study were encouraging. However, the teachers participating in this program did not share the students' success. Teachers had difficulty shifting their approaches from traditional teaching methods to interdisciplinary approaches. They expressed their concerns that extra time and effort was required to develop their lesson plans and that traditional testing procedures were no longer effective in assessing the students' progress. Wineburg and Grossman (2000) emphasized a need for additional training of teachers and time constraints in scheduling planning sessions as two primary concerns when implementing interdisciplinary curriculum changes.

Wilson (2001) cautioned that knowledge of the subject matter is not enough to be an effective teacher. Teachers must understand the needs, motivations, and abilities of all of their students. What works well for one student may not work on another. Dunn and Dunn (1992, 1993) emphasized the importance of addressing the individual learning styles of each student. They pointed out that hands-on, "real-world" experiences increase the students' comprehension and involvement in class. Ramey (1997) agreed when she pointed out that, motivational, engaging, enjoyable, and non-threatening characteristics of

informal learning environments found in museums and other Out of School learning environments are essential for a well-rounded education.

Research has suggested, however, that, Creating high-quality, interdisciplinary curricula from scratch is not a trivial exercise (Renyi, 2000). Renyi admits that it does indeed take extra time and effort to develop interdisciplinary lesson plans that give equal emphasis to each discipline. To force a theme into a lesson plan for the sake of continuity without a balance of subject content is not interdisciplinary. Interdisciplinary curricula that are successful are usually designed around a theme that is itself interdisciplinary. An example of this argument is seen in an interdisciplinary humanities project created by eight teachers at the Zia Elementary School during the 1990s in Albuquerque, New Mexico. Renyi (2000) describes the program as a model of innovative curricula. "The unified curriculum was followed throughout the school year. The results were that student test scores went up and they developed a passion for learning." The success of this program is attributed to the unifying architectural theme that ran throughout the year. Architecture is not the only interdisciplinary medium suited for developing an interdisciplinary program.

Education Related to Archaeology

The eclectic nature of archaeology makes it an ideal tool for developing both cognitive and affective skills in children (Smardz & Smith, 2000, p. 28). Archaeology is an ideal vehicle for combining multiple disciplines including cooperative learning, analytical skills, math, science, and social studies so that one discipline does not dominate the lesson. Patricia Wheat (2000, p.128) describes a trial lesson she developed for grades 4-6. She designed an interdisciplinary program that combined social studies and language arts. Her program emphasized practice in the skills of observation, inference, inquiry,

record keeping, and cooperative learning. After completion of the program, her comments were "It matches my curriculum requirements so well, and I can also see many areas where it will enhance students' small group learning, affective and cognitive skills. I can't wait to include it in my classes for next term!"

A basic understanding of archaeology methods is essential for teachers to be able to incorporate archaeology activities with other disciplines effectively. Fagan (2000, 2001) has written several excellent books. One text that is especially valuable for teaching archaeology methodology is In the Beginning: An Introduction to Archaeology (2001). It covers the history of archaeology as well as archaeology methods and is written so that the layman can understand it. Ancient North America: The Archaeology of a Continent (2000) gives an interesting yet thorough overview of prehistoric North America including early European contact. Both of these books are extremely valuable to the development of the teacher's understanding of prehistoric Ohio and archaeological methodology.

Educational Theory Linked to Archaeology and Ohio History

Archaeological records can provide a valuable tool for teaching Ohio history. Our knowledge of Ohio's prehistoric civilizations is based on those archaeological records. However, teachers should be aware of the differing opinions concerning our understanding of Ohio prehistory. It is important for the development of critical thinking skills that students have the opportunity to examine more than one interpretation of history. These resources should include primary data from Ohio's early archaeological discoveries as well as data from the latest in scientific technology. Squier and Davis (1848) were the first to investigate and interpret the prehistoric sites in Ohio. Their publication Ancient Monuments of the Mississippi Valley created an interest for archaeological exploration that swept the

nation. Webb and Snow (1974) followed with The Adena People, first published in 1945. This study gives insights into archaeology methods and interpretations practiced in the early half of the 20th century. It is still considered an important reference on prehistoric Ohio Valley occupations.

Scientific and technological advances have given rise to new interpretations of old and newly discovered data. Three valuable references include works by Dancey (1994), Pacheco (1996), and Genheimer (2000). These three publications sponsored by the Ohio Archaeological Council present varying interpretations of the latest data on prehistoric Ohio Valley occupations dating from 11,000 B.C. to A.D. 1650.

A documentary series entitled Ohio Archaeology is targeted for release on public television in the fall of 2004. The Ohio Archaeology project is a comprehensive media project about Ohio's ancient American Indian cultures. It will include a four-hour documentary series, a companion book, and a companion website designed for the delivery of educational materials to be used at home and in the classroom. The Ohio Archaeology series will be provided free to Ohio Educational Telecommunications for distribution to every school system in Ohio (T. Law, Project Director, personal communication February 22, 2002). This documentary series will be a great asset to educators with a limited knowledge of Ohio archaeology and prehistory.

Summary

Interdisciplinary teaching strategies that include hands-on, real-world techniques have been hailed as successful in engaging student involvement and improving student comprehension. Teachers are reluctant to incorporate these strategies into their schedules because of time restrictions and the lack of training in unfamiliar curricula. This chapter

began by discussing the pertinent literature in educational theory as it pertains to interdisciplinary strategies. Second, the literature pertaining to archaeology as an effective, interdisciplinary educational tool was examined. Finally archaeological literature that pertains to teaching Ohio history was discussed. An effective means of addressing the teachers' concerns has not yet been adequately investigated. The study under investigation will help teachers address these concerns.

CHAPTER III

Method and Analysis

A qualitative case study was best defined by MacDonald and Walker as an examination of an instance in action (Merriam, 1988, p. 11). The instance in action examined in this study was a teacher's workshop, designed and presented by the researcher, entitled, *An Interdisciplinary Approach to Social Studies Using Archaeological Methodology and Activities*. The workshop was presented the week of July 7-10 through the Antioch McGregor 2003 Educational Leaders Seminar Series.

Methodology

Designing the Workshop

Research began with the question, "In what ways can interdisciplinary teaching strategies, which include archaeology activities and methodology, help teachers fulfill the educational goals of Ohio's new Social Studies Academic Content Standards?" A proposal for a workshop that would address this question was designed by the researcher and presented to the Program Administrator for Educational Leaders Seminar Series at Antioch University McGregor for consideration (Appendix A).

The workshop design was based on information gathered from four sources. First the grade-level indicators of progress (K-12) for social studies outlined in the Ohio Department of Education's Academic Content Standards (2002) was the primary guide in

developing the workshop design. These grade-level indicators were established by a Joint Council, which consisted of the State Board of Education and the Ohio Board of Regents. The indicators provided a set of common expectations for what all students should know and be able to do upon completion of high school (Ohio Department of Education, 2002, p.6).

Second anthropologists experienced in presenting archaeology methodology and Ohio prehistory to the public, were interviewed. These formal and informal discussions included experts such as Dr. Robert Riordan of Wright State University, Andrew Sawyer, Christopher Turnbow, and Sandra Yee of SunWatch Indian Village/Archaeological Park, and James Heilman, Bill Kennedy, and Lynn Simonelli of the Boonshoft Museum of Discovery. Their experiences provided valuable insights into the needs and interests of visiting teachers and school groups particularly in the areas of archaeology methodology and Ohio history.

Literature relating to the value of archaeology education in the public schools was the third source of data used in planning the workshop. For a list of the literature see Chapter II.

Finally, my personal experience as an archaeology educator in museums and in the K-12th grade classroom also impacted the workshop design. These experiences included educational programming for the SunWatch Indian Village/Archaeological Park in Dayton, Ohio, the Carnegie Museum in Pittsburgh, Pennsylvania, the Vassar Summer Scholars Program for Vassar College in Poughkeepsie, New York, and Arlington School District, in Dutchess County, New York.

The next step was to determine the location and date for the presentation of the workshop. The multi-site locations included a primary site, the Entrepreneurs Center in Dayton, Ohio, and a secondary site, which was SunWatch Indian Village/Archaeological Park in Dayton, Ohio. The Entrepreneurs Center provided easy access and a centralized location. The classroom was large and equipped with state of the art technology that included laptop computers for each participant and Internet access necessary for class assignments. The SunWatch Indian Village/Archaeological Park was chosen for the secondary location because of its direct association to the Ohio Academic Curriculum Standards in the area of Ohio history concerning the Fort Ancient civilization.

Conducting the Workshop

During the workshop, as instructor/researcher, I presented an overview of the basic knowledge that the participants would need to design an interdisciplinary lesson plan incorporating archaeology activities and methods that would address the Ohio Academic Content Standards in their classrooms. This information included the following resources:

- A timeline of Ohio's prehistoric societies.
- Discussion of the cultures mentioned in the Ohio Department of Education Academic Content Standards.
- A list of resource material available for teachers in the areas of archaeology and Ohio history including books, periodicals, historical sites, and web-sites.
- Hands-on experience with archaeology activities and methods that have been tested in classrooms and are proven effective and adaptable to various age groups.

While instructor of the workshop, my role as researcher was that of an active facilitator rather than a passive observer. Many of the activities presented in the workshop were

originally designed for regular elementary classroom students. However, the nine teacher participants (as later described in detail) included one special education teacher, one teacher of severely emotionally disturbed children outside of the regular classroom. There were teachers that taught the Adolescent/Young Adult as well as regular Early Childhood and Middle Childhood classroom teachers. The group of teacher participants had a median of sixteen years and a mean of fifteen years of teaching experience. The distribution is slightly skewed because of the one outlier of zero years of experience. That one teacher participant was beginning her career and at present is substitute teaching. It was impossible to anticipate the individual needs of the participants prior to the presentation of the workshop, therefore, it was necessary to adapt the information and activities presented in the workshop to fit the specific needs of the participants.

Intense daily interaction through formal classroom discussions and informal sharing of past experiences allowed flexibility and sensitivity to the needs of each of the teacher participants.

Data Collection Procedures

Data collection procedures included 1) field notes collected during the workshop on classroom discussion and observation of the participants, 2) facilitator/instructor interviews with teacher participants, 3) responses to written questionnaires, and 4) written assignments.

A questionnaire consisting of thirteen questions (Appendix B) was distributed to the participants on the first day of the workshop. It was collected on the last day of the workshop to allow for personal reflection and any change of attitude that might have occurred over the four day period. The data from the questionnaire was intended to validate

and augment the data gathered from classroom observation and the participant/instructor interviews. It included questions that might be overlooked during individual interviews pertaining to the professional development needs and expectations of the participants (questions 1, 2, 3, 10, 11, and 12). Some questions were reflective in nature to help assess the strengths and weaknesses of the workshop (questions 4, 5, 6, 7, 8, 9, and 13).

Participants used the newly acquired knowledge and resources to design an interdisciplinary lesson plan for their classrooms. Class discussion and individual interviews allowed the participants to demonstrate how they intended to apply the knowledge gained through the workshop in their real-world classroom situations.

In-depth open-ended interviews with the teacher participants were conducted in the classroom on the last day of the workshop. The Interview Protocol (Appendix C) was kept simple to allow for flexibility. The interviews were tape recorded by the researcher. The interviews were not conducted in a private room in order that I could be available for any questions that the workshop participants, still working on class assignments, might have for me as the instructor.

The data collected for analysis included 1) the instructor's Research Questionnaire, 2) Interview data, 3) Antioch McGregor survey, and 4) a lesson plan designed by each of the participants as the culminating assignment. Triangulation of the data came from the information compiled in the above data as well as informal discussions and field notes collected during the four days of workshop activities. The consent of each teacher to participate in the research was acquired through a voluntary informed consent letter (Appendix D). The names of the participants have been changed to protect their identity.

Data Analysis

The questions that served to guide the researcher's discussion and analysis of the data collected include:

1. How was the knowledge gained in this program used in the proposed lesson plans to address the needs, motivations, and abilities of their students?
2. What problems do the participants expect to encounter when implementing these new strategies?
3. What assessment strategies will be used to evaluate the success of the new lesson plans in the classroom?
4. What changes in the program are needed to better serve the needs of the classroom teachers in the future?

Summary

The effectiveness of this teacher's workshop to provide the participants with the skills and confidence they needed to develop their own lesson plans was determined by qualitative data collection methods. The collection methods included field notes on classroom discussion and observation of the participants, facilitator/instructor interviews with teacher participants, written questionnaires, and written assignments. The triangulation of data collection sources provided a holistic representation of the views of each of the teacher participants thereby, increasing the validity of the researcher's conclusions.

CHAPTER IV

Setting and Participants

This chapter describes the research setting for the study and the participants. The setting for this study is the workshop *An Interdisciplinary Approach to Social Studies Using Archaeological Methodology and Activities*. The primary site for this workshop was an off-campus classroom at the Entrepreneurs Center located at 714 Monument Avenue in Dayton, Ohio where three of the four eight hour sessions were held. The secondary site was SunWatch Indian Village/Archaeological Park (SunWatch) located at 2301 West River Road in Dayton, Ohio. The participants in the summer workshop were nine professional educators including experienced and novice teachers, plus the facilitator/researcher.

Research Setting

Primary Site

The Entrepreneurs Center setting was a large state of the art classroom that included battery operated Gateway PC laptop computers with wireless Internet access for each student. Several Apple iMac computer stations were also available. All computers were connected to a classroom printer. Along with the computers, the participants had access to individual tables and chairs that were on wheels making them easy to arrange into octagon units for group projects. A long table was set up in the front of the classroom to hold resource material for the participants easy access.

The classroom contained a teacher's station at the front of the room which included a Gateway PC laptop, Apple iMac computer, Elmo document camera (a.k.a. an electronic overhead projector) and a Polycom Touch screen command center. The command center controlled the classroom projector that projected computer images from the laptop, VHS, and DVDs, and video conferencing onto the main screen in the front of the room. There were several well-equipped workstations set up around the room for the participants to observe and experiment with the latest in classroom technology.

Secondary Site

SunWatch Indian Village/Archaeological Park was the secondary setting for the workshop. The site is located next to the Miami River in Dayton, Ohio. The archaeological park consists of a reconstructed thirteenth century Fort Ancient village and interpretive center. The village was arranged in concentric circles with the outer circle being a stockade fence of upright locust posts woven with willow branches. The next circle in contained a row of reconstructed houses of mud daub walls and thatched roofs. The next circle in was the work area containing storage and trash pits. The next area was reserved for burials and in the center of the village was an open plaza area with an astronomical alignment of posts that is believed to mark important ceremonial dates for the village.

Careful attention has been made to accuracy in the reconstruction of the village. Each post has been placed in the exact location recorded in the archaeological records. The inside of each reconstructed dwelling was furnished in the manner that archaeologists believe represents the thirteenth century inhabitants. There were interior log benches that were decorated with deer hides, clay fire hearths, various tools, musical instruments, and pots that provided a realistic atmosphere within the dwellings.

The interpretive building/museum was constructed in the shape of an Indian bow. The artifacts, which were excavated in the 1970s and 1980s, were displayed on the main floor. Also on the main floor was a theater for viewing a video about the history of the archaeological site. The classrooms were below, in the basement. Classroom A was set up as a walk-through timeline of prehistoric Ohio artifacts. The reconstructed artifacts were arranged in order according to time starting with the Paleolithic, Archaic, Adena, Hopewell, Fort Ancient, European contact, and ending with a display of archaeology tools and equipment. A colorful, prehistoric timeline poster designed by Bill Kennedy of the Boonshoft Museum of Discovery was part of the display. Classroom B was set up to resemble an archaeological excavation. The floor was divided into a grid of squares. Wooden cutouts of trash pits, fire hearths, and post molds were set about on the grid. Archaeology tools such as sifting screens, shovels, trowels, and tape measures lined the walls. The walls were painted with scenes of archaeologists working in the field. The reconstructed village, museum classrooms and artifact displays were the setting for several workshop projects that are discussed in a later chapter.

Research Participants

The participants in this workshop included nine professional educators from several school districts in southwestern Ohio. Of these nine teacher participants, three had over 20 years of classroom experience, five had between six and seventeen years of classroom experience, and one was a novice teacher. One participant taught in a Montessori program, one taught Special Education, one dealt with severely emotionally disturbed students, one was a substitute teacher, one taught at a local charter school, and four taught in regular public schools. Six of the participants were female and three were male. One participant

taught Early Childhood (grades Pre-K – 3), four taught Middle Childhood (grades 4-9), three taught Adolescent/Young Adult (grades 7 – 12), and one taught grades 4 – 11. Two of the participants combined more than one grade level in the same classroom and one participant team-taught with another teacher. Following is a more detailed description of the participants.

[B.J.]: B.J. was very soft-spoken, almost timid. She had seventeen years of experience. She worked for the county and described her students as severely emotionally disturbed. She described her role as being more of a tutor rather than a traditional teacher. Her classroom was a varied combination of students ranging from fourth through eighth grade. Her gentle nature must be quite non-threatening to her students. She displayed a great deal of enthusiasm for her lesson plan and concern for the extreme variation in her students' needs.

[D.J.]: D.J. had a vibrant personality. He had thirteen years of experience teaching ninth through twelfth grade social studies. Although he had used some interdisciplinary methods in his teaching in the past, he had never used archaeology. D.J. was the only participant to have any experience in archaeology. He had taken a summer class at SunWatch when he was twelve. He was very enthusiastic about his lesson plan, but did not expect to use it right away.

[S.J.]: S.J. was self-confident and enthusiastic about teaching and had often used interdisciplinary projects where he combined social studies and language arts. His creative use of drama to introduce archaeology to his fifth grade social studies class was an inspiration to many of the other participants in the workshop.

[C.L.]: C.L. had a bubbly personality and was eager to share and discuss her creative ideas. She had twenty-one years of experience. Enthusiasm for her role as a Montessori teacher

was evident in her exploration of a wide range of resources for her lesson plan. Her classroom combined fourth, fifth, and sixth grade students. She was especially excited about SunWatch and made a return visit to the site to photograph the village, classrooms, and museum displays for use in her classroom.

[K.M.]: K.M. taught first grade at a charter school. She had twenty-four years of experience. Her enthusiasm and friendly personality made her easy to talk to. Although she was not accustomed to writing lesson plans or dealing with curriculum standards, she did not hesitate to embrace the challenge and incorporate a wide range of activities from the classroom projects and SunWatch into her program.

[G.R.]: G.R. was just beginning her career in teaching after fifteen years as a stay-at-home mom. She had an outgoing, talkative personality. She was a substitute teacher in language arts at the Adolescent/Young Adult level. Although she took the class because it offered the most credit hours, and she has no plans to use the lesson plan in the near future, her program was designed to extend over an entire semester. Her enthusiasm showed in her creative ideas for real-life experiences for her students. Her lesson plans allowed the students practical application for many of the academic skills learned in the classroom.

[H.S.]: H.S.'s gentle personality and easy smile would make for an inviting atmosphere in the fourth grade classroom. She had twenty-four years of experience. Her motivation to attend this workshop was to gain an understanding of the early people in Ohio and of archaeology methods that would help to improve her teaching skills. She was inquisitive about all topics including art and music, and her enthusiasm was catching.

[H.T.]: H.T. had a casual nature and quick smile. H.T. had six years of experience. He has taught language arts at the seventh grade level for two years, but admitted that he preferred

teaching high school. Although his principal encouraged interdisciplinary, hands-on teaching techniques, H.T. had little experience with these techniques either as a student or as a teacher. He admitted to being a bit uncomfortable with these techniques at the beginning of the workshop. In the end he was very pleased with his lesson plan design and planned on using it at the beginning of the school year.

[L.V.]: L.V. had fifteen years experience in teaching. She team-taught social studies and language arts to fourth, fifth, and sixth grade special education students. Her talkative nature was accented by her enthusiasm for teaching. She was very excited about her lesson plan and was eager to share it with other teachers in her school.

Summary

Both of the research settings were spacious and inviting. The participants were excited and curious about all of the advances in classroom technology that were available at the Entrepreneurs Center, and were delighted with the opportunity to work with the newest advances in classroom technology.

SunWatch provided a unique opportunity for the teacher participants to examine an archaeological site, the museum environment, and its educational potential. The participants were intrigued with the prehistoric village and incorporated many of its aspects into their lesson plans.

There were a great variety of interests and needs to address with this workshop. The participants were never shy about engaging in conversations or sharing their experiences. The response of the diverse group made for a lively exchange of ideas during the daylong workshop.

CHAPTER V

Findings and Discussion

This chapter discusses the research findings based on the results of facilitator/researcher observation, personal interviews with the workshop participants, and data collected from the study. The workshop being investigated here was designed to address the issues that teachers viewed as constraining the implementation of interdisciplinary techniques in their classrooms. The four issues were 1) the time restrictions, 2) new subject content, 3) unfamiliar teaching techniques, and 4) student assessment strategies. The framework used to present the research findings includes a discussion of the four issues, the findings concerning the participants' use of archaeological activities and methodology to address those issues, and the data that support the findings.

Time Restrictions

All of the participants agreed that developing a new program would require an increase of time and effort on their part. They were all energetic, creative teachers, committed to quality education. The extra time and effort required for research, building models or excavation boxes (dig boxes), and planning meetings with co-workers was not an issue of concern. It was expected and accepted as part of the normal routine. One participant summed up the general attitude of all of the participants during her interview, "It would involve a considerable amount of work on the teacher's part to set up this scenario. But that is interesting to me."

When discussing time management issues in the class schedule, the question arose, How will the new subject matter be introduced into the classroom schedule? The most common solution was to spread the projects out over an extended period. The average length was a three-week unit plan rather than a single daily lesson plan. One participant planned a simple two to three hour lesson, which would require one or two meetings with the students. One participant planned lessons for three class sessions to cover a period of one week. Five of the participants planned lessons that spanned a three-week mini-unit. These lesson plans included extra time for students to do research. Two participants planned unit plans that spanned from three to nine weeks. All but one lesson plan included special activities that required extra time and work on the teachers part to plan, organize field trips, and build models or excavation boxes.

[G.R.]: So what you could do is spend a small amount of time in the first three quarters of the year setting this up.

[C.L.]: It s'going to take the whole quarter. I mean it ties into everything that I vè learned in the last three days!

[S.J.]: I m' going to use this lesson plan at the start of this upcoming school year, when we begin our social studies. The whole first chapter, first section of our book is talking about Ancient American civilizations. So, I m' going to use the whole context of this project as the opening of the first two or three weeks of that study, of that chapter. As indicated in that plan, I m' not even going to get to the text book at all until we vè done all of this, so that when we do get to the non-fiction reading in the text book, the students are coming to it with questions that they have raised ... The curiosity to see if all of the conclusions they came to match up with the text and

if there are any discrepancies, that is fodder for discussion! It sets a much better purpose for reading. They're not just doing it because it's chapter one, page one, this is where we start. There's a whole background context now that it's all related to...there's a more personal investment.

Subject Content

The participants in this workshop, like those in the Study of Curriculum Reform (Anderson, 1996), were hesitant to include subjects outside of their expertise in their interdisciplinary lesson plans.

Only one of the nine participants had any former experience in archaeology. The other eight participants' exposure to archaeology was limited to television programs such as National Geographic and movies of fictional characters such as Indiana Jones. During the interviews the participants responded to the question, "Why did you take this course?"

[C.L.]: Because archaeology is like intimidating, the term. I said, "I'm just going to go for it because, all it is, is social studies. I said, "It's the study of ancient people." That's the way I'm thinking, my own knowledge, you know. I have to go with my knowledge base, because, I haven't taught archaeology.

[H.T.]: I love archaeology! As soon as you said the very first day, the Indiana Jones thing I thought, "That's me! That's something that I've always been somewhat fascinated about. And even on Tuesday when I was talking to my wife about it I said, "I don't think I should be an archaeologist. They're too meticulous. Like even when we did the dig boxes, I was like, "Oh, here's a tooth! That's more important than a shell."

[H.S.]: I wanted to improve the way in which I help students understand early people and I felt that a better understanding of archaeology would be helpful. I have always had a personal interest in archaeology.

[D.J.]: I've always been interested in archaeology. When I was twelve I did a course in natural history out at SunWatch. I have two brothers that are archaeologists. One is not doing that now but the other one does Neanderthal work in Germany. He keeps saying, "Come on out in the summer and work on a dig." I've learned a ton about archaeology, about the people that used to live here. It's been super!

More than just archaeology was included in the focus of this interdisciplinary workshop. While the elementary teachers were accustomed to teaching many different subjects, most Adolescent and Young Adult teachers concentrated on one subject. An added concern noted by some of the participants was a need to coordinate their lesson plans with other teachers in combined classroom situations. Designing an interdisciplinary lesson plan where the teachers must try to fit a predetermined list of subjects into the lesson was awkward. The interdisciplinary nature of archaeology activities and methodology provided a natural setting for the combination of academic skills. There was no need to hunt for ways to combine subjects in a lesson plan where the subjects might compete for attention. Therefore, the participants felt that interdisciplinary lesson plans required less time and effort to design than if they had to design a separate lesson plan for each subject. This is evidenced in the comments of the workshop participants.

[C.L.]: I'm trying to get the fourth, fifth, and sixth grades in for one lesson. I'm trying to do a group lesson, which means I have to get standards from all these

levels. It's more complicated. Basically, I have my standards, and I'm trying to incorporate social studies and language arts.

[L.V.]: You said it was laden with language arts, and it is! Because, I am a Special Ed. teacher and those are the weaknesses of my kids, their writing, their reading, and their ability to communicate... Now I have this in mind for the fifth grade. I did inclusion... Well, this is my ticket to my principal to say, "I'm ready to make it work again this year. We're doing social studies and math."

S.J. expressed his surprise at the number of Curriculum Indicators that his archaeology lesson addressed. "I was amazed at how many there were, not only in social studies but in language arts as well. I thought there would be a few in social studies but I didn't anticipate there would be so many in language arts. So, I'd say of everything I've done so far, this is the most interdisciplinary one that I've ever designed."

The table below displays the wide range of subjects covered in each of the participants' archaeology based lesson plans.

ACADEMIC SKILLS COVERED BY PARTICIPANTS' ARCHAEOLOGY-BASED LESSON PLANS

SUBJECT	TEACHER AND GRADE								
	J.B.	L.C.	J.D.	R.G.	S.H.	T.H.	M.K.	V.L.	J.S.
	4-8	4-6	10-12	11-12	4	7	1	5	5
Social Studies	X	6	3		14	14	5	3	11
Language Arts	X	9	2	9	6	X	4	16	15
Math	X	X	1		2	X		2	3
Science		X	4	2	X	X	5		X
Art	X	X	X	X	X	X			
Music					X		X		
Cooperative Learning	X	X	X	X	X	X	X	X	X
Computer Science		X		3			X		X

X Indicates the subject is used in the lesson. # Indicates the number of Curriculum Indicators covered.

Teaching Strategies

Many teachers are uncomfortable learning and applying new teaching strategies that are different or at odds with their own experiences. How did the workshop help the participants achieve the confidence to experiment with alternative strategies? Not all of the participants found interdisciplinary teaching at odds with their experiences. Only one participant felt uncomfortable, at first, with interdisciplinary strategies.

[H.T.]: I used to be a high school teacher, so it's much more difficult for me to be loose. I liked to be, I don't know, college professor lecturing. But that's what I was used to and coming out of high school or coming out of college like that. I usually give a lot of homework so this is a change for me. Because I'm, Read this section. Do the question, which I still think is good. But this is good because it's a switch for me to be a lot more, You guys do this and I'll walk around and watch how you do. It's a lot more student oriented.

When responding to the question, Do you use interdisciplinary strategies in your classroom now? eight of the participants confirmed that they did, although they seldom combined more than two subjects. Archaeology methodology and activities were new for every participant. H.S. responded, I frequently integrate social studies with language arts and math. I try to create realistic math problems that relate to the time period/people we are focusing on in social studies. ”

One participant taught at a Montessori school where she was encouraged to use interdisciplinary strategies on a regular basis.

[C.L.]: The interdisciplinary approach is the only way to cover the majority of the subjects that we're mandated to teach ...Archaeology is like intimidating .because I haven't taught archaeology .but once I got here, this wealth of information, and you were very simplistic. You were uh, -uh, -uh, and that's how I am. That's how I learn, step oriented ...And then with you I saw that easily, Oh do this, oh do this. ”
So, after experiencing this, I was able to recreate this for my kids.

I can see it! And if I can see it, I can do it. Especially when I looked at the SunWatch tape. I thought, How easy this is. This is so basic. I can see that happening! There's nothing so complicated that I can't do it in steps.

[I] Instructor: Did this class help you visualize all of that?

[C.L.]: Oh, this is the only reason I had this vision, because of this class! The experience out at SunWatch, sitting in here .This class stimulated all those thoughts. I didn't have those thoughts before I walked in this door.

All of the participants were eager to add the archaeological approach to their strategy.

[S.J.]: Yes .a lot of what I did last year in language arts had a [drama] spin on it and sometimes we did it in a social studies context, in which case it was more interdisciplinary. Most of the time we just did it in language arts.

[I]: Do you think this approach will work better than what you've done before?

[S.J.]: I think this will work better in the sense that I will be addressing more of the curriculum strands at one time. Something that is limited to just language arts, it

might address some of those strands in language arts very well, but, it's leaving out a whole set in social studies; for example, that will need to be addressed at a later time and in a different way. But, in something like this, you're hitting all those strands within the context of one project, so you don't have to generate something else later on to get something you've missed.

Sometimes projects are like a linear progression. You start off with one question or you have one goal in mind and you have to go through part A, B, C, D to get there, all in a straight form. But, this one is different! Because, if in their discussion they [students] raise a lot of different questions, they can all go off and do their independent investigation and bring it back to their small team. There are lots of different options and branches in this one? It's not just, um, you know, one regimented sort of task. They don't all have to do the same thing at the same time.

[K.M.]: I mix my teaching with art a lot. Math and reading areas are tied with my creative writing, journal writing constantly, as well as science and social studies.

K.M. designed a three-week lesson plan for her first grade class that addressed the curriculum standards in social studies, science, language arts, art, and computer skills. Her lesson plan explored the five senses and compared How does an archaeologist use her/his senses? Specific skill objectives covered in the lesson plan included 1) collect, organize, evaluate, and synthesize information; 2) practice good citizenship; 3) analyze and interpret events in Ohio history; 4) investigate and infer; and 5) record and write.

[K.M.]: Students will use an interdisciplinary unit in archaeology in order to help them in their understanding of the Adena, Hopewell, and Fort Ancient people from

Ohio. An appreciation of these people will also be a focus. Social studies, language arts, math, art and music skills will be used during this unit.

I am very excited about using the dig boxes to give students some problem solving opportunities during our study of Ohio Mound Builders and Fort Ancient people. Students are always more engaged when they have a real problem to solve. I will also work with the broken pots because I think students will have a sense of an archaeologist's excitement.

Another participant compared the cooperative learning achieved through archaeological activities to Vygotsky's zone of proximal development (1986, p. xxxiv).

[D.J.]: I use interdisciplinary methods but not archaeology. I do more with literature, math, etc. I've always been interested in archaeology. I wanted to take a course this summer, and I saw it listed in one of the course descriptions that was sent to me at school I teach social studies, so it just sounded interesting. It fits with what I do. I'm always looking for different approaches to things.

It just struck me as I was writing this [lesson plan] that all the learning that is occurring here is happening in a social context. If you compare that to what Vygotsky said about learning, the most effective teaching and learning methods, this is it!

Other participants felt that the archaeological approach could provide new possibilities for expanding the cooperative learning strategies of their special needs students.

[B.J.]: [I use] some interdisciplinary two to five times per week, depending on lesson content ...Our students are severely emotionally disturbed, many with

severe behavioral problems. They have poor social skills and may misuse some of the materials, either to harm themselves or others ...I've purposely tried to combine a math lesson with a social studies lesson so that they can work with at least one other person, or two, or three to give me an idea of how they get along socially. And if we put a couple of students working together on a timeline it will help them develop social skills, which is one reason why they are there.

I purposely made it simple and I tried to do it two different ways. Like I say, illustrate or create tools. Now, depending on the type of student I have, some of them will just be doing the illustrations. Sometimes you can work it, like one time I had one student, very talented artistically this past year. He would have loved to create a timeline like this with drawing. But, and then the ones that I could bring in the clay pots, the tipis, things like that. But I purposely did it that way to reflect the ability [of the students] so that I could use this from year to year depending on my situation.

[L.V.]: I am a Special Ed. teacher and those are the weaknesses of my kids ...They can usually fit into an inclusion social studies class and look like they belong. But, the minute they open their mouths it's evident that they don't, or the minute you ask them to write something it's evident that they don't. So, I've tried to design this so that they are working in teams so they're not all having to do all of the writing. They're not all having to do all of the speaking. They have little bits and pieces. Everyone has to take a turn. It's not like they're having to do it all by themselves ... I actually have another teacher this year that said, "I think I'm willing to try it [inclusion class with the Special Ed. students]. So, I have to have her bite into this.

This is a beginning of the year unit. Most of the time teachers, when experienced, teachers will go a little lax in the beginning of the year. And if I have something to say, "Hey we can go with this!" It will make an impression. Then they will be more willing to work with us. That's my thinking. This is something we have to do by law and nobody wants to do it.

We have almost 1400 students. So, as a result, there are eight fifth grade teachers, eight sixth grade teachers, and eight fourth grade teachers that I have to coordinate everything with. That is the problem in my particular school.

[I]: How will this type of program help you with that?

[L.V.]: Well, this is my ticket to my principal to say, "I'm ready to make it work again this year. I made it work last year. If you can book my kids in a classroom that will accommodate them. That's where I'm headed with it."

At the opposite end of the special needs students are the enriched programs for students in college prep classes. How do you keep them challenged?

[G.R.]: I am a language arts teacher, but the interdisciplinary part of the class description appealed to me. Interdisciplinary strategies are essential in language arts if you want to teach communication skills in a realistic way.

The thing that is attractive to me is, instead of doing a research paper where you go and read a bunch of stuff in encyclopedias and magazines, you actually do something that you might do if you were in a technical or even a research area of expertise in the real-world! The students will use archaeology as their field of research and they will go through a research process. This will involve skills in language arts, science, computer science, art and other areas.

Student Assessment

None of the participants seemed concerned about the effects of the archaeological strategies on proficiency testing. They were more interested in the effect of the new methods on student interest and participation. On the written survey H.S. commented, "I'm not especially interested in this because of my philosophical opinion about the importance (or rather, lack of importance) of these tests in assessing achievement and an interest in learning. Similarly, S. J. emphasized, "I strongly feel that achievement tests must not be the only measure of learning. These [archaeology] activities/methods foster learning that might not show up as an elevated point score on a test. "

Alternative methods of assessment were developed for each of the participants' lesson plans. They all included multiple forms of assessment strategies. Informal assessment strategies included: 1) teacher observation of group participation, 2) group discussions, and 3) peer group assessments. No formal exams were present in any of the lesson plans. Some self-examination techniques were included in four of the lesson plans.

Visual and/or performing arts were used in all nine lesson plans. Drawings were used as a means of recording (excavation worksheets and artifact illustrations), displaying (pottery, dioramas, timelines), and interpreting data (Power Point presentations). Oral presentations took the form of plays, demonstrations, and speeches. Seven of the teacher participants had their students keep some form of journal or notebook. The multiple assessment techniques assured the teacher participants a more comprehensive understanding of their students' understanding of the lessons' objectives.

Summary

This chapter presented the research data collected during the four-day teacher workshop under examination. The discussion was divided into four areas of concern. The four divisions were time restrictions, subject content, teaching strategies, and student assessment.

The teacher participant comments indicated that the extra time and effort expended on designing archaeology based lesson plans was not viewed as restrictive. They emphasized the value in the time spent in designing archaeology based lessons by extending their lesson plans to include mini-units and even full six to nine week unit plans. The lesson plans designed by the teacher participants addressed the Ohio Department of Education's recommendations for the grade-level indicators for student achievement in at least four separate areas. These areas included art, computer skills, math, science, and language arts, as well as social studies.

The data collected from facilitator/researcher observation, teacher participant interviews, and written lesson plans designed by the teacher participants indicated that the knowledge gained in the workshop provided teachers with the skills and confidence needed to introduce new teaching strategies and the new social studies curriculum into their classrooms. All nine teachers displayed innovative techniques to assess student achievement and understanding of the new curriculum. These techniques included visual arts and craft displays, dramatic presentations, and computer generated presentations. The triangulation of data from a variety of sources including facilitator/researcher observation, personal interviews with the teacher participants, and written documentation provided support for the findings and the conclusions, discussed later, based on these findings.

CHAPTER VI

Conclusions and Recommendations

The State of Ohio has mandated a new set of Social Studies Academic Curriculum Standards effective in September 2004. An essential factor impacting the new standards is the inclusion of specifically named cultural periods in Ohio's prehistory. The Ohio Department of Education mandate acknowledges the value of interdisciplinary teaching strategies as outlined in President Bush's No Child Left Behind Act of 2002. This study investigated the effectiveness of a workshop designed to help teachers integrate the new curriculum into their schedules with interdisciplinary strategies that include archaeological activities and methodology. In surveys conducted by Anderson (1996) teachers cited four concerns as constraints toward the implementation of interdisciplinary techniques in their classrooms. These four concerns were the focus of this study. Following are the conclusions based on the data collected through researcher observation, facilitator/participant interviews, and the culminating assignment.

Conclusions

Upon review of the literature search, the analysis of the questionnaire, and individual interviews, the composite picture presented shows that the main concerns of teachers have been addressed. After completing the workshop teachers declared that their knowledge base in the areas of archaeology methodology and Ohio prehistory had been substantially expanded. Hands-on experience and classroom discussions built the

confidence needed to experiment with new techniques available through archaeological activities and computer technology. The time spent designing lesson plans that adapted the new theories and knowledge gained through the workshop provided the teacher participants with a set of lesson plans and activities designed specifically for their classroom needs. These lesson plans prepared them in advance and gave them added confidence and enthusiasm for the up-coming school year.

The first of the workshop participants' concerns was the extra time and effort that teachers must invest to develop interdisciplinary programs that give equal emphasis to each subject covered in the lesson. The participants acknowledged that developing archaeological activities for use in their classrooms did take extra time and effort. The participants did not view the requirements for additional time as constraining, rather, the time spent designing archaeology based programs was determined to be justified and even enjoyable. They agreed that archaeology based interdisciplinary strategies addressed more of the Curriculum Indicators within the context of one project than they had ever experienced, thus relieving them of planning a separate project for each subject. This in turn gave them more time for other pursuits.

The second concern was subject content. The teacher participants were reluctant to include unfamiliar subject content into their interdisciplinary lesson plans before attending the workshop. None of the participants had enough experience or knowledge to feel confident to teach a class that included archaeology methods or activities before attending this workshop. All of the participants agreed that the workshop provided them with the knowledge base and resources to develop the confidence to include archaeology based activities in future lesson plans. This confidence was displayed in their culminating

assignments and discussions. Each of the interdisciplinary lesson plans developed around their individual needs had archaeology based activities. These activities included archaeological methodology instruction in laboratory procedures, excavation and recording procedures, and analytical procedures.

The third area of concern, similar to the issue of unfamiliar subject content, was unfamiliar teaching strategies. Both are issues concerning confidence. Although all but one of the participants had some experience with interdisciplinary teaching strategies, none had combined as many Curriculum Indicators in one lesson plan before this experience. The integrated strategy was eagerly adopted as evidenced by the participants' lesson plans. All of the culminating lesson plans were designed to include multiple sessions. Six of the participants used archaeology as the focus of an entire unit of study. The participants attributed their enthusiasm for the new strategies to the availability of resource material for them through the workshop, Internet, and museum field trip, as well as the hands-on experience with archaeology activities and class discussions.

The fourth concern, student assessment procedures, required that the participants develop alternatives to the standard written exam. The insertion of interdisciplinary, hands-on activities addressed a variety of different learning styles. These activities, in turn, allowed for a variety of opportunities to assess student comprehension and application through writing assignments, verbal communication, visual arts, performing arts, and computer technology.

The effectiveness of this workshop in providing teachers with the experience and confidence to experiment with alternative teaching strategies is best evidenced by two comments of the participants.

This experience was great! You have provided me with the tools and confidence to create an environment that will allow my students to explore this whole concept. ”

This was a very informative four days. I thoroughly enjoyed being a student. I left with some practical ideas for ways to enhance what I am teaching. ”

Recommendations

The Ohio Department of Education has made an outstanding commitment in providing curricula that will increase student understanding of Ohio's history by the addition of subject content in archaeology and Ohio's prehistoric indigenous cultures. However, no provisions have been made to supply the classroom teacher with the tools and additional knowledge needed to teach these new subjects. Based on the results of this study, archaeology based interdisciplinary workshops for teachers are recommended in four areas:

1) The first area is in statewide workshops for professional development for K-12th grade teachers. The workshops would help to prepare the classroom teachers for teaching the new subject content. The knowledge base gained through these workshops would aid teachers in their selection of textbooks and educational material for their classrooms. In addition, the workshops would supply classroom teachers with immediate, adaptable materials and resources until the textbooks are available.

2) The second area for which this type of workshop would be useful is at the district level. Workshops available through individual school districts could supply a standardized base of knowledge in archaeology methodology and Ohio pre-Colonial history for their region. The knowledge gained through this workshop could be divided into four separate one-day workshops to fit the teachers' busy schedules.

3) The third area in which this workshop would be a valuable addition is in university education departments. Although this workshop was designed for professional development, the workshop could be adapted to the undergraduate level as a full nine-week course. Additional readings should be added in the areas of both archaeology methodology and educational theory. The resulting workshop would help students gain practical experience in a wide range of interdisciplinary methods and educational philosophy and provide a good foundation in Ohio's pre-Colonial history. This workshop would provide opportunities for undergraduate students working toward a degree in elementary education to develop a portfolio of educational activities that would address the most recent changes in education standards and build confidence through experimentation and classroom discussions.

4) Finally, it is recommended that the workshop be made available on-line, via the Internet. Recent advances in technology, such as the Visual Concert 4000 video conferencing unit available through The Entrepreneurs Center classroom in Dayton, Ohio, would allow teachers from all over Ohio to participate in the workshop. Remote conferencing, via the Internet, would allow participants to access the workshop from the convenience of their own classrooms. This would dramatically reduce the traveling expense and overall cost for prospective participants in remote areas of the state.

No educational program is perfect the first time through. There were a few suggestions for improvement made by the participants. The most common request was to add an introduction segment on the first day of the workshop. The participants were anxious to get to know a little background on the other participants. This, I believe, was a good suggestion. It would give the instructor an idea of the interests and grade levels that need to

be addressed. Another request was for time and instructions on the building of diorama models and dig boxes for classroom activities. It could be an additional aspect of the workshop if a partnership could be established between the museum and the university for the workspace needed to build the models and boxes.

The focus of this study was to provide a workshop that may serve as a model for introducing teachers to the current changes in Ohio's Academic Content Standards. It would be worthwhile to discover how many of the lessons were put into practice and teachers' assessment of their application.

An archaeological based workshop is a natural way to cover the historical periods mandated in the Ohio Academic Content Standards and to implement interdisciplinary educational strategies. It was demonstrated through the triangulation of data that participation in this workshop could provide teachers with the knowledge base and experience to feel comfortable and confident to implement archaeology into their classrooms and help teachers fulfill the educational goals of Ohio's new Social Studies Academic Content Standards. The interdisciplinary archaeology based teaching strategies introduced through this workshop provided the flexibility teachers needed to address a wide range of learning styles, grade levels, and special needs in their individual classrooms. Hopefully, the enthusiasm displayed by the participants and the workshop's ability to adapt to multiple achievement levels and subject content will encourage the Ohio State Department of Education, local school districts, and universities to offer workshops like this one for teacher's training in the future.

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APPENDIX A

COURSE OUTLINE

An Interdisciplinary Approach to Social Studies Using Archaeological Methodology and Activities

Course Outline

Session #	Topic
I	Introduction to curriculum standards: What you need to know. A. Power Point Presentation 1. Ohio Prehistory 2. Ohio Department of Education - Academic Content Standards B. Lunch Break C. Program Demonstrations 1. What s In A House 2. Woodland Village 3. Tipi diorama activity D. Videos 1. SunWatch Indian Village/ Archaeological Park (2002) Dayton, Ohio 2. Flint Knapping with Bruce Bradley, Ph.D. (1989) Cortez, CO: INTERpark
II	Field Trip: SunWatch Indian Village/ Archaeological Park A. Museum Displays B. Village Tour

- C. Lunch Break
- D. Survey projects in village
- E. Classroom projects
 - 1. Ohio Timeline
 - 2. Archaeology basics

III Investigation of multimedia resources and class project.

- A. Dig Box archaeology activity.
- B. Archaeology Lab activity.
- C. Lunch Break
- D. Individual lesson plans.
- E. Video Cahokia Mounds: Ancient Metropolis (1994)
Collinsville, IL: Cahokia Mounds Museum Society

IV Individual interviews and class presentations.

APPENDIX B

RESEARCH QUESTIONNAIRE

Research Questionnaire

1. Why did you take this class?
2. Do you use interdisciplinary or team teaching strategies in your classroom now?
How often?
3. Do you participate in team teaching in your school? With which teachers?
art__ music__ physical education__ other classroom teachers__ other grades__
4. Do you expect to use these activities in your classroom?
5. Which activities do you think will work best in your classroom situation? Why?
6. Which activities do you feel you are least likely to use? Why?
7. Does your school provide the materials needed for these activities?
8. Would the cost of supplies for these activities be inhibitive?
9. What problems do you anticipate will come with the use of these activities/methods?
10. Do you utilize off campus field trips? fall__ winter__ spring __ summer__
11. Do you anticipate that these activities will help students to increase scores on achievement tests?
12. What grade/grades do you teach?
13. Would you be interested in a follow up interview after utilizing these activities in your classroom?

APPENDIX C

INTERVIEW PROTOCOL

Interview Protocol

Questions that will be used to encourage discussion during the open-ended interviews will include the following:

1. Do you feel that the increase in time and effort that is required to develop new programs that include archaeological methods and activities is worthwhile?
2. How will the new subject matter be introduced into your classroom schedule?
3. How does the interdisciplinary strategies based on archaeology that were presented in this workshop compare with interdisciplinary strategies that you have used in the past?
4. How will the archaeological approach help with your classroom's unique environment?
5. How did the knowledge gained in this workshop help build confidence to integrate new teaching strategies or new subject matter in your classroom?

APPENDIX D

INFORMED CONSENT FOR THESIS RESEARCH PROJECT PARTICIPATION

Informed Consent for Thesis Research Project Participation:

Integrating the New Ohio Social Studies Curriculum Standards into the Classroom Schedule Using
Archaeological Activities and Methodology

My name is Susan K Nelson, and I am a graduate student in the ILPS at Antioch University McGregor. I would like to invite you to participate in a research study about the benefits of archaeological activities and methodology as an interdisciplinary tool for integrating the new Ohio Social Studies Curriculum Standards into the classroom schedule.

I am interested in learning more about your concerns involving the new social studies curriculum and your views about the benefits of using archaeological activities as instructional tools. Your participation will include responding to a written survey before and after taking this class, and an interview near the end of the program. All information will be kept confidential. In other words, your name will not appear anywhere and no one will know about your specific answers except me. No reference will be made in oral or written reports which could link you to the study.

The benefit of this research is that you will be helping me to understand the benefits (if any exist) of using archaeological activities and methodology in the classroom as a means to give students practical applications that will allow them to use a variety of educational skills involving real-life experiences. The risks to you of participating in this study are minimal. You are the expert in the classroom experience. The time, knowledge of schedule management, and classroom experience will be invaluable in helping me to achieve a holistic representation of the value of archaeology experiences in the classroom.

Please feel free to ask ANY questions about the research before you decide to participate. I will be happy to explain anything to you in greater detail. I can be reached at 937-862-5237, or e-mail me at susankae@earthlink.net.

If at any time during the study you feel that you have not been treated according to the description in this form, you may contact my faculty advisor Dr. Gina Paget at 937-769-1884 or e-mail gpaget@mcgregor.edu.

Thank you,

Susan K. Nelson

Please sign below if you are willing to participate in the thesis research project outlined above. I have read and understand the above information. I understand that participation in this study is voluntary and that I may withdraw from the study at any time.

Signature _____

Print name _____

Date _____