

**An Art Museum's Role in Professional
Art Teacher Staff Development**

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Introduction

The visual arts are an integral part of the educational process in our public schools. However, due to shrinking funding, fewer staff development opportunities, and high teacher to student ratio, it has become more difficult for teachers and administrators to access the resources needed to continue incorporating the fine arts across the curriculum. Therefore, it is even more important for school systems to become aware of inexpensive local resources such as museums and other arts organizations to assist in the development of the arts in the public school system. For this thesis, I have studied the benefits of the Fayetteville Museum of Art's (FMOA) involvement in the Cumberland County School system's art enrichment programs. I will conduct an evaluation of past practices and a needs assessment of future continuing education for professional teachers. I will use this data in the future as a prototype for assessing professional development needs in other public school systems across the state.

The FMOA reaches an audience in southeastern North Carolina that covers ten counties with a population of more than 750,000 (U.S. Census Bureau, 2001). Part of this audience consists of the Cumberland County School System, which employs the resources of FMOA to enhance its art education programming. Situated in the sandhills region of North Carolina, Cumberland County schools consist of 53 elementary schools, 15 middle schools, 10 high schools, 1 year-round classical school, 1 evening academy, 1 web academy, and 3 special schools. Enrollment for Cumberland County schools in 2000/2001 was 50, 979 students with a total of 3,057 full time teachers employed (Cumberland County Schools, 2002).

As a former art teacher in a special needs K-12 Cumberland County School System, and a Director of Education for FMOA, I have participated in staff development for the school system both as an employee and as a guest lecturer representing the Museum. Currently, as Assistant Director at the FMOA, I manage the Education Department and assist in the implementation of exhibitions, special events, and revenue development. My position at FMOA has given me an opportunity to create a cross-curricular supplement combining the subjects of science and art. Recently, I was given the opportunity to share the supplement with the art teachers of Cumberland County Schools during a staff development workshop. It is the Museum's intent to provide this cross-curricular workshop, based on the implicit findings of this research, to teachers across the state of North Carolina.

In a region of the state where there are few available opportunities for university level coursework in art education, it is important for the art museum to play a role in staff development for the art teacher. Cumberland County School System provides only two-and-a-half teacher workdays for specialty areas in the school year and requires attendance by all teachers. The findings of this research may be used to complement the currently established county workdays or to supplement additional required continuing education credits. This research was undertaken to benefit the FMOA and the Cumberland County School System's art educational programs.

Due to strong support from our local schools, one-third of Cumberland County schools' 50,979 students participated in FMOA tours and hands-on tours during the year 2000/2001 (Fayetteville Museum of Art, 2001). The Museum reached over 15,000 children in Cumberland County during its fiscal year 2000/2001 through tours, outreach

programs, special events, and checkout resources; these children ranged in age from three to 19 years old. More specifically, the FMOA provided guided tours and hands-on tours for 27 Cumberland County schools with 1,021 children and 160 adults attending (Fayetteville Museum of Art, 2001).

In the past, FMOA staff have presented in a few of the professional development workshops held by Cumberland County Schools. These workshops consisted of presentations of the Museum's Art Trunks, art library resources, upcoming gallery exhibitions, and information on tours and upcoming events. The Museum can benefit future staff development through the findings of this research with an implementation of teacher workshops on current topics in art education as well as presentations of current exhibitions in the classroom.

Statement of Research Problem

Cumberland County's system of 84 schools employs 88 art teachers (as of September 2001) to teach art to approximately 50,979 students (Cumberland County Schools, 2002). Cumberland County schools currently face a time when student enrollment is high in relation to the number of teachers employed. The county's teachers are confronted with increased paperwork and more students per class, creating a decrease in time for planning and professional development.

In a region of the state where there are few available opportunities for university level coursework in art education, it is important for the FMOA to play a role in professional development for the art teacher. In its role as a free, public Museum and as

a community resource, the FMOA can be used to enhance art classroom instruction through its exhibitions, checkout resources, tours, and hands-on tours.

It is part of the Museum's mission to enhance the appreciation of the visual arts in our community. An appropriate starting point to reach out to our community is through art teachers who daily play a role in shaping our future citizens. The purpose of this investigation is to provide guidelines for meaningful and enriching art teacher professional staff development and to determine how museums can have a role in such practices. The FMOA will be used as a model for the role art museums can play in the enrichment of art classrooms in public schools.

Statement of Research Questions and Objectives

The question for investigation was as follows:

To what extent can the Fayetteville Museum of Art play a role in providing meaningful and enriching professional staff development to the art teachers of Cumberland County?

Specific consideration requisite to determining a response to the research question included:

1. to determine what format and resources make a professional development workshop meaningful to an art teacher; and
2. to determine what topics are of interest to art teachers during professional development.

Significance of the Study

The significance of studying the role the FMOA plays in art teacher staff development can be supported through several key goals of the Museum's mission: to meet and enhance the educational needs of regional art teachers, to assist school administration, to shape future citizens, to raise community awareness of the cultural arts, and to maximize the use of public funds. In order to augment art classroom instruction in our public schools and simultaneously partially fulfill the Museum's mission, this research will investigate the professional development needs of area art teachers and the role of the Museum in such educational endeavors. Moreover, the findings will provide valid information that contributes to the current knowledge base of the FMOA Education Department and Cumberland County School officials.

The school administration will also benefit from museum involvement in professional development. As teachers are exposed to a broader base of knowledge, they return to their classrooms better equipped to educate their students. Museum involvement also allows for a variety of different speakers and presenters during professional workshops, alleviating pressure from school administrators to continually seek new presenters. Additionally, it is possible for art museums to assist school administration in planning curriculum, developing educational materials, and providing other services to schools through museum/school collaborations. It is the full time job of the FMOA to educate our community about the arts, and our school administration is strengthened by the support we provide to the school system on a regular basis.

Both FMOA and North Carolina schools focus on enhancing the appreciation of the visual arts and visual literacy through educational programs. The public school

system and FMOA strongly believe that the quality of life is based on the strength of the cultural arts within a given community. The FMOA has a significant stake in the future citizens of our community, not only by increasing awareness of but also promoting involvement in the arts. Our mission is "to collect, conserve, display art, and present programs of art education in order to enhance the appreciation of the visual arts by the people of Fayetteville, Cumberland County, and its surrounding area" (Fayetteville Museum of Art, 1998, p 1). The FMOA is strengthened by partnerships with the school system, individual schools, teachers, students, and parents.

Similarly, our public schools have a substantial obligation to shape our future citizens into appreciators of the arts. According to the North Carolina Department of Public Instruction, its mission for the visual arts K-12 is "to build knowledge and understanding of ideas, values, and beliefs of people in different times throughout history as communicated through visual art with the goal of developing visually literate students" (North Carolina Department of Public Instruction, 2002, p 1). A collaboration of resources through staff development would benefit both parties in pursuit of their goals.

The Museum strives to provide quality art educational programs and to raise the level of art appreciation in our community. Another significance of this research is to increase public school awareness about community art museums as an educational resource. The FMOA offers outreach to school art programs, after school classes, art lectures, an art resource library, and educational trunks available for checkout to both parents and teachers. Through school-system collaboration with the Museum, students, parents, and teachers may become better acquainted with the resources we make available.

As our public schools and local non-profits face budget cuts, it is only natural to combine resources in order to maximize the use of public funds. School systems are experiencing reduced budgets for professional development. Where an outside speaker might once have been brought in to speak, school systems now look to local non-profit resources to provide quality workshops. Regional non-profits are an excellent example of a resource used by the school administration to participate in the professional growth of their teachers. Not only are issues of funding deficits prevalent in school systems but also for non-profits. The FMOA, for example, would not immediately benefit financially from a sharing of resources; however, over time funding may be obtained through grants. As the Museum continues to collaborate in professional development opportunities with the school system, a track record rich with statistics, goals, and outcomes develops. These elements are fundamental in procuring grant funds in order to provide educational development workshops in the future. Strong museum programs and proper documentation that local needs are being met are beneficial in securing private and public financial support. An example is when FMOA in 2000 was able to use documentation from its programs to secure funds through Glaxo Smith-Kline Foundation for a special exhibition (Dale Chihuly: "Seaforms") complete with educational materials. Financial support becomes advantageous not only to the Museum but also to the teachers who participate in such programs through an increase in available resources.

Assumptions and Limitations

This study involved art teachers of Cumberland County, The Fayetteville Museum of Art, and a sampling of art teachers and education directors from art museums

across the state of North Carolina. The researcher assumes that this study fairly represents other small museums with an operating budget under \$350,000 and their relationships with their local art teachers. Because all museums differ, conclusions may not be generalized to all museum and school relationships.

Definition of Terms

Pre-service teacher – a student working toward a college degree in education to become a future teacher

DBAE – Discipline Based Art Education is the teaching of Art as a valued academic subject through focusing on all of Art's Disciplines in the teaching process: Art Aesthetics, Art History, Art Production, and Art Criticism.

Review of Literature

This literature review stems from the investigation of several key points including: art education in both North Carolina and Cumberland County Schools, museum education, teacher education for pre-service and practicing art teachers, and museum/school collaboration.

The Basic Education Plan for the state of North Carolina describes the common core of knowledge and skills that every child shall grasp when he or she graduates from high school. According to North Carolina Department of Public Instruction, the Basic Education Plan includes instruction that is fundamentally sound and gives the child a thorough grounding in arts education, English, language arts, information and computer skills, second languages, healthful living, mathematics, science, social studies and

vocational education (North Carolina Department of Public Instruction, 2002). This plan is a step towards North Carolina public school students receiving quality arts education instruction and gaining an awareness of the arts.

Art education is an important component of the (holistic) educational approach of Cumberland County Schools. It is through art education that children make cross curricular connections with other subject matter such as history, science, math, and music. Cumberland County Schools has provided teachers with standards or gateways and performance guidelines based on a demonstration of proficiency in reading, writing, mathematics, and technology. Art education provides a vehicle by which all of these content areas may be combined, reinforced, and practiced. There is increasing evidence indicating that involvement in the arts improves student performance in math SAT scores and reading and writing skills. According to test scores released in August 2000 by the Atlanta College Board, the more foreign language, art and music classes students take, the more likely they are to perform well on the SAT. Furthermore, "students who studied art and music for more than four years earned a total score 76 points higher than their peers who only took a half-year of either elective" (Womble, 2000, p1). An additional report from the Arts Education Partnership by James Catterall indicates, "school children exposed to drama, music, dance, and visual art may do a better job at mastering reading, writing and math than those who focus solely on academics" (Henry, 2002, p1). Catterall sums up the importance of arts education and curricular integration: "While education in the arts is no magic bullet for what ails many schools, the arts warrant a place in the curriculum because of their intimate ties to most everything we want for our children and schools" (Henry, 2002, p1).

Public schools, through their arts education programs, are given the responsibility to develop a cultural awareness in their students. Schools, however, cannot bear the sole responsibility for creating citizens involved in the arts. Through community partnerships with local museums, schools can progressively provide a multitude of cultural arts experiences.

School art education has an important role in orienting future citizens to the art museum. Perhaps one of the most important roles that school art education can fulfill is to instill in students an appreciation of the art museum as an important institution in which to learn (Stone, 1995, p76).

Museums play an important role in the process of educating our community. People of all ages can and do learn in museums. Museum participants learn about themselves, the world, and often make unique and startling connections. Viewers may have aesthetic and spiritual experiences just by viewing and encountering a work of art (Hein, 1998). Students need more opportunities to learn in museums, but first, teachers must realize the benefits of such instruction.

Many teachers have good intentions in bringing their students to a museum that is well staffed with educators and docents, but more often than not, this instructional resource is not used to its fullest. Museums, no matter their size, are filled with excellent educational treasures for teaching and learning. In an economically uncertain time riddled with budget cuts, our classroom teachers could take advantage of a museum's substantial contribution to education if they know how to use the museums (Martinello, 1987, p 16).

Schools and museums are not the only components of a successful art education program; the art teacher must be involved in the process. Measures should be taken to improve art teacher education in order to serve the goals set forth by our schools. An improvement in art education to incorporate art museum experiences with classroom instruction begins with the pre-service art teacher.

In the days of educational reform, teacher education programs that do not prepare teachers to use the museum's resources for children's instruction are remiss in their obligation to build collaborative networks for education among schools, museums, and universities (Martinello, 1987, p 16).

Public education has placed an increased focus on curriculum integration among subject matter. Arts education is a suitable vehicle to carry out cross-curricular instruction; our pre-service teachers and practicing teachers need to become adept at these instructional practices. How might teachers and pre-service teachers provide better cross curricular lessons? Judith Hodgson offers a solution in a 1986 *Museum News* article entitled, "Teaching Teachers: Museums Team Up with Schools and Universities." Art museum education supports and exemplifies the notion of cross-curricular integration through displays of historical artifacts, kiosks playing music of a particular era, and subject matter depicting issues of science and math. Hodgson recommends teaching pre-service and practicing teachers how to engage their students with the objects of museum exhibits.

Art museums may play a vital role in creating curricular integration in our schools. Involving teachers in museum education for school students is essential to

delivering high quality education to students (Liu, 2000). Institutions of higher education in collaboration with museums may be at the forefront in changing art teacher education. If a role of art education is to stimulate an appreciation for the arts and museums in students, art educators must ensure these experiences are made available to our schools. It is the job of museums and institutions of higher education to equip teachers and pre-service teachers with the appropriate instructional methodologies for instruction within a museum setting (Stone, 1995).

University of Texas at San Antonio (UTSA) involves its elementary education teachers during *The Expressive Modes of Children in the Elementary School*, an alternative to typical art methods courses. The course is designed to develop the visual thinking abilities of pre-service teachers and to increase their knowledge of methods of engaging children with images, developing children's imagery, and helping them acquire an active interest in the arts. Content instruction and classroom teaching experiences are not enough preparation for a typical teacher to successfully use a museum setting to its fullest potential. Marian Martinello and Mauricio Gonzalez of UTSA believe that when developing museum-teaching skills, one must ultimately understand and implement visual learning concepts (Martinello, 1987).

Museum learning and museum education should be made a requirement for all degree and certificate programs in educational fields. UTSA has for some time included in their elementary and art education degree programs a required field experience in the San Antonio community's museum settings. In a post field experience survey, two pre-service teachers commented about the importance of museums fostering interdisciplinary

education. "Museums are an extremely good way to instruct students in all subjects, but teachers need to be instructed on how to use them as such" (Martinello, 1987, p 18).

In a 1995 study, Denise Stone surveyed art teachers concerning their preparation for teaching in the art museum. The sample teachers were divided in their opinions about their preparation for teaching in this type of setting. Just over half (51%) of the sample said that their college education prepared them while 49% reported that it did not. An open-ended item questioned the sample about the kind of college course that could have better prepared them. Responses indicated that course material should address: how to use the art museum including techniques for teaching in this setting, teaching demonstrations and actual teaching experiences in museum galleries, and curriculum development specific to this setting (Stone, 1995).

Although, a museum experience is only a small portion of a student's educational career, the impact of the visit on the student is often determined by the way the teacher integrates the visit into the class instruction and curriculum rather than by the docent who conducts the visit (Stone, 1995). Museum/school collaboration is an important component in the process of improving arts education. Bonnie Pittman-Gelles explains why classroom teachers are essential to museum/school collaborations in her 1981 article *Museums, Magic and Children: Youth Education in Museums*.

The Museum education staff and docents may not be able to meet all of the requests for service, due to limited staff size or large demand. Teachers who are trained to use museum exhibits and materials can develop their own programs. Teachers who have a clear understanding of a museum program can more effectively prepare

their classes for the program and employ follow-up activities, thus enhancing the learning experience (Pittman-Gelles, 1981, p 23)

Few American museums have made the training of teachers a matter of policy, yet museum educators are increasingly convinced of the need to ally themselves with the classroom teacher if they want to reach the children. Responsibility for the follow-up in the classroom and the nurturing of the museum instruction remains the responsibility of the teacher, whether it is through the art, history, geography, or science lesson. However, it is the museum's responsibility to ensure the teacher is trained in such matters (Newsom, 1978). It is evident that the most productive means of educating teachers is by providing classes/workshops given by museum professionals in a museum setting.

Art courses for teacher training should include procedures for the teaching of the DBAE curriculum: aesthetics, art history, art criticism, and production in ways that are appropriate for instructing children. Moreover, these courses should emphasize the utilization of community art resources such as museums, galleries and local artists (Miller, 1983). As teachers become more familiar with local resources, they are more adept at using such enhancements in their classrooms. Additionally, students should be required to attend cultural events providing a basis for class discussion and student enrichment (Yakel, 1984). Regional museums provide an extension of the art classroom and should be used by teacher and student alike for education, aesthetic appreciation, and enjoyment.

Arts education programs are strongest when three key components come together and join forces in educating our youth: public school administration, art museums, and teachers. Henry Watson Kent of the Metropolitan Museum of Art, New York states,

"Museums must have the interest of the board of education itself before instruction of teachers can get anywhere" (Newsom, 1978, p 464).

Methodology

The purpose of this investigation is to provide guidelines for meaningful and enriching art teacher professional development and to determine how museums have a role in such practices.

Therefore, the research question is as follows:

To what extent can the Fayetteville Museum of Art play a role in providing meaningful and enriching professional development to the art teachers of Cumberland County?

The FMOA has previously been involved in art teacher professional development and wishes to improve the quality and effectiveness of workshops in the future. To implement this research, a needs-assessment survey was formulated to determine what Cumberland County art teachers seek to gain from a workshop. The intent is that the Fayetteville Museum of Art may be able to provide for these needs once they are identified.

Not only is it important to understand the needs of local art teachers, but it is also equally important to determine what other museums are offering in the way of professional workshops for art teachers. A survey to be completed by regional art museum education directors was generated in order to determine what resources their museums are currently providing to their art teachers.

A visual arts professional development workshop was held on October 18, 2001 when the Museum was invited to present information to the teachers concerning the Museum's educational resources. The presentation consisted of a series of slides on the Museum's upcoming exhibitions, a display of an art trunk and library materials, and dissemination of the Museum's brochures concerning programs and available resources. All teachers in attendance completed a needs-assessment survey generated by the FMOA. These surveys provided the Museum with pertinent information for future teacher workshops including: workshop topics, implications for meaningful workshops, and resources the teachers would like to see the museum provide.

Another opportunity to gather information from art teachers was at the North Carolina Art Education Association (NCAEA) annual conference held in Winston Salem, October 26-28, 2001. Art teachers and museum education directors from various regions of North Carolina were in attendance. The conference was an opportunity for networking and gathering information on teaching practice and curriculum enhancement ideas. Teachers from various regions of the state came to the conference not only for networking opportunities but also to gather information on current teaching practices. Surveys were completed by these state wide art teachers, providing feedback about available museum resources in their region, the components of a quality workshop, and topics of interest for future staff development.

Additionally, the conference was a forum for Museum education directors to come together for workshops and networking. These directors were able to present educational opportunities in their museum to art teachers across the state. The education directors also completed surveys sharing information such as: teacher resources available

for checkout, teacher workshop opportunities in their museums, and past topics presented during teacher professional development. Upon completion by both art teachers and museum education directors, the surveys were tallied and summarized.

During the time of this research, a final opportunity arose for FMOA to provide professional development to Cumberland County art teachers on October 7, 2002. This was a workday set forth by the Cumberland County Schools' administration, when specialty areas were allotted two hours for enrichment in their area of focus. The workshop was created from ideas generated through the needs-assessment survey and from a cross-curricular supplement created to integrate science and art.

Subjects

The teachers of Cumberland County were of primary concern for purposes of this research and were chosen because the FMOA is located within the county. Those art teachers present at the professional development held on October 15, 2001 and the teachers at the second workshop on October 7, 2002 were participants in this study. The art teachers in this study will henceforth be referred to as "teacher".

Art Education Directors from various art museums across the state of North Carolina were selected, based on their willingness to complete a survey, during the 2001 NCAEA annual conference held in Winston-Salem, NC. A total of seven directors were present and four individuals participated in this research. Also present at the conference and participants of this research were 30 art teachers from across the state of North Carolina.

Collection of Data

The teachers of Cumberland County were surveyed two different times. The first time a needs-assessment survey (Appendix A.1) was completed to determine how the FMOA could better meet the needs of and form partnerships with Cumberland County art teachers. The survey instrument had a total of seven items; six of the items were multiple choice and the seventh item was an open-ended response question to elicit information concerning ways that the FMOA can be involved in meaningful activities that support student learning. The six multiple choice items of the needs-assessment survey requested information of art teachers about: (a) their years of teaching experience; (b) their previous use of FMOA resources as part of their teaching practice including gallery tours, outdoor sculpture tour, hands-on tours, art resource library materials, art trunks, and guest lecturers; (c) usage of the Likeart scale (1-5) to estimate the value of the aforementioned FMOA programs as classroom resources; (d) the number of opportunities for art teachers to participate in professional development in Cumberland County; (e) determination of meaningfulness to teaching practice to previously attended professional development workshops; (f) usage of the Likeart scale (1-5) to assess which FMOA programs they would attend in the future including gallery tours, hands-on projects, multicultural issues, bi-lingual classroom presentation, art history lectures, assessment workshop, special-needs student presentation, and a holistic curriculum workshop. A needs-assessment survey was also compiled for the art teachers from across the state. The questions followed the same format as those of the Cumberland County teachers; however, the teachers state-wide were queried in an open-ended format on what made a professional development workshop meaningful to them.

The second collection of data from local art teachers consisted of a post-evaluation (Appendix A.3) following a professional development mini-workshop in Power Point based on a program I created entitled, "The Art of Flight a Cross-Curricular Supplement". The post-evaluation requested statistical information and feedback about the cross-curricular workshop such as number of years of teaching experience, grade level currently teaching, number of students taught, familiarity with and use of PowerPoint® software, access to an LCD projector in their school(s), and a list of the successes of the mini-workshop.

Education Directors from art museums around the state of North Carolina who were present at the 2001 NCAEA Annual Conference, completed a survey (Appendix A.2) to determine how their Museums attempt to meet the needs of art teachers in their regions. The survey requested information of Directors of Art Education about: years of Museum experience, highest degree of higher education completed, name of museum (optional), number of education staff, a list of resources their Museum makes available to art teachers, opportunities for art teachers to participate in professional development in their Museum, their perception on the need for professional development opportunities in their region for art teachers, programs their Museum has made available for professional development of art teachers, and, in an open-ended question, the ways their Museum is involved in meaningful activities that support student learning and teacher staff development in their community.

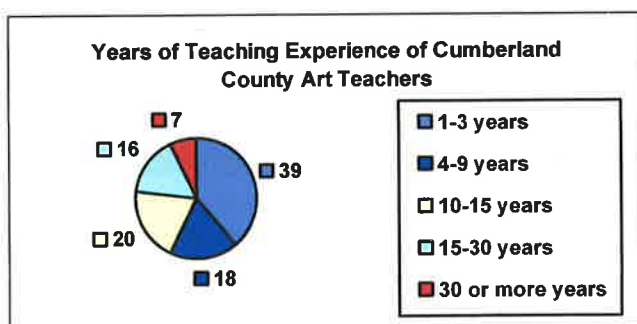
All participants in this study were notified that the results of the survey would be handled with the strictest of confidence. Confidentiality was maintained throughout the process of data collection as well as throughout the dispersing the results.

Data Analysis

Closed-ended items such as multiple choice questions, Likeart scale (1-5) questions, and yes/no answers were computed and frequencies for these items are given in rounded percentages. Open-ended questions were analyzed according to each individual question. Significant responses to open-ended questions are presented in text form.

The following results are based on quantitative data from a needs-assessment survey of Cumberland County art teachers. A total of 55 teachers completed the survey out of 84 art teachers in the county. Of the individuals surveyed, 39% have 1-3 years, 18% have 4-9 years, 20% have 10-15 years, 16% have 15-30 years, and 7% have 30 or more years of teaching experience. The following graph (Figure 1) demonstrates the number of years of teaching experience of the surveyed Cumberland County art teachers.

Figure 1



Respondents were asked which FMOA resources they have utilized in their teaching practice in terms of gallery tours, outdoor sculpture tours, MUSE partnership (funding through Cumberland County Arts Council for cultural arts partnerships), art resource library, hands-on tours, art trunks, guest lecturers, and student exhibits. Respondents were also queried about how valuable these FMOA resources were for their classrooms. Responses were based on the Likeart scale with (5) representing “strongly

agree”, (4) “agree”, (3) “no-opinion”, (2) “disagree”, and (1) “strongly disagree”. In the following, the pie chart (Figure 2) represents ‘FMOA Resources Used by Art Teachers’ and the table (Figure 3) represents the ‘Value of the FMOA Resources to Cumberland County Art Teachers.’

Figure 2

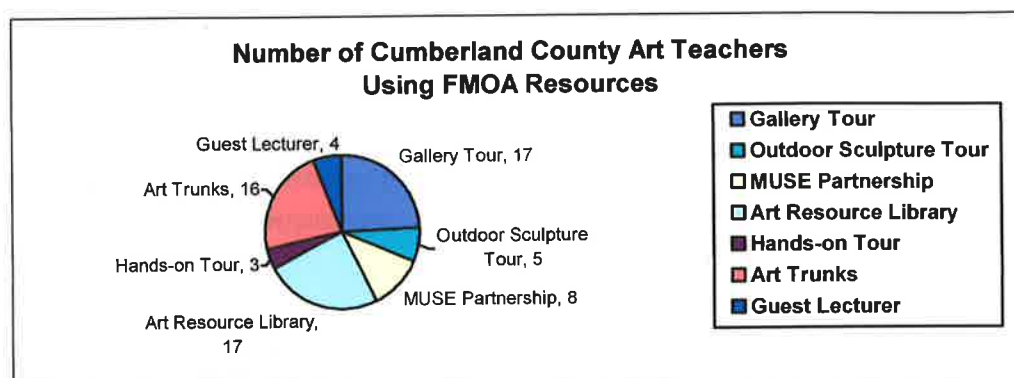


Figure 3

FMOA Resources are Valuable to Cumberland County Art Teachers:

FMOA Resource	Strongly Agree (5)	Agree (4)	No opinion (3)	Disagree (2)	Strongly Disagree (1)
Gallery Tour	21	22	5	0	0
Outdoor Sculpture Tour	20	19	5	1	0
MUSE Partnership	12	4	19	0	0
Art Resource Library	39	8	0	3	0
Hands-on Tour	25	14	6	0	0
Art Trunks	26	20	2	0	0
Guest Lecturer	13	15	13	1	0

The sample responded more negatively to the statement: “there are ample opportunities for art teachers to participate in professional development in Cumberland County.” Of the sample, 41% said they disagreed that there are ample opportunities in Cumberland County for workshops. Only 7% of the sample strongly agreed there are

ample opportunities for professional development. The following chart (Figure 4) depicts the opinion of the surveyed teachers. Of the workshops provided, the teachers were asked whether they were meaningful to their teaching practices. Surprisingly, most teachers agree the workshops have been meaningful; the results are shown in Figure 5.

Figure 4

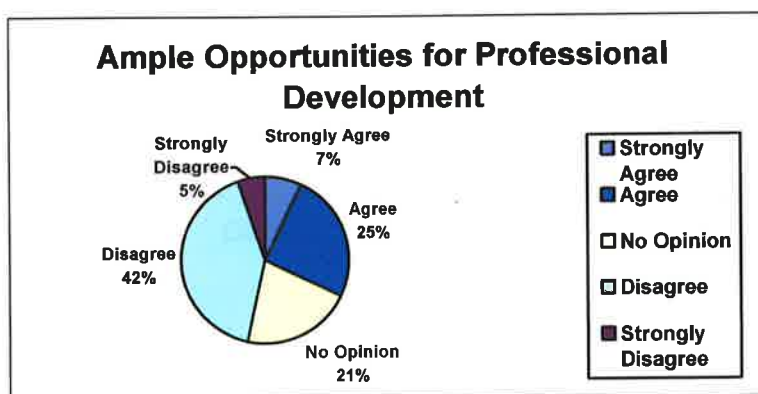


Figure 5

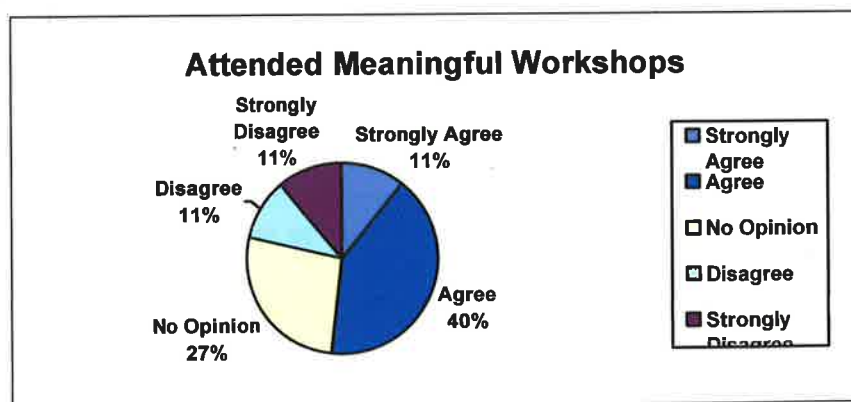


Figure 6

Topics for Future Professional Development					
Topics	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Gallery Tour	22	21	2	1	0
Hands-on Project	32	17	4	0	1
Multicultural Issues	21	22	5	2	1
Bi-Lingual Classroom	8	15	18	1	2
Art History Lecture	13	23	6	1	0
Student Assessment	12	17	13	0	1
Special Needs Students	17	19	7	0	1
Holistic Curriculum	14	15	12	0	1
Other	Classroom Management, Studio topics – watercolor, painting, sculpture, and jewelry				

Respondents were queried about the types of programs they would participate in for future professional development workshops. A list of topics was given, and respondents used the Likeart scale to evaluate; a blank space for additional topic ideas was also provided. The previous table (Figure 6) depicts the professional training topics Cumberland County art teachers would most like to be presented.

The following results are based on quantitative data from a survey of the education directors from art museums across the state of North Carolina. Of the seven education directors present at the NCAEA Annual Conference in Winston Salem, four individuals completed the survey. Of those surveyed, two individuals have 4-9 years of Museum experience and two have 10-15 years experience. Respondents were asked to use the Likeart scale to respond to whether there is a need for more professional development workshops in their region of the state. All individuals surveyed (100%) indicated they “agree” there is a need for professional development workshops in their

region. Respondents were also queried about what type of programs they have made available to art teachers for professional development. The following indicate those results: (3) gallery tours; (4) hands-on projects; (2) multicultural issues; (1) bi-lingual classroom workshop; (2) art history lectures; (1) special needs student presentation; (2) holistic curriculum workshop such as music/art, creative writing/art, and American history/art; (1) artist's demonstrations; (1) behind the scenes in the Museum.

The most relevant data gleaned from the teachers across the state was in response to the question "What makes a professional development workshop meaningful to you?" Results were reviewed, and significant responses are presented. Overwhelmingly, teachers responded that professional development is most meaningful when it "pertains to my subject area," "is practical and applicable to my classroom on a daily basis," and "gives me something concrete I can use." Some teachers expressed that a workshop was meaningful when it "provides me with new and innovative strategies useful in the classroom" and "allows me to take something away from it, learning something new." Out of the 30 teachers surveyed, one teacher said, "Workshops are meaningful when they teach me how to integrate art into the curriculum classes."

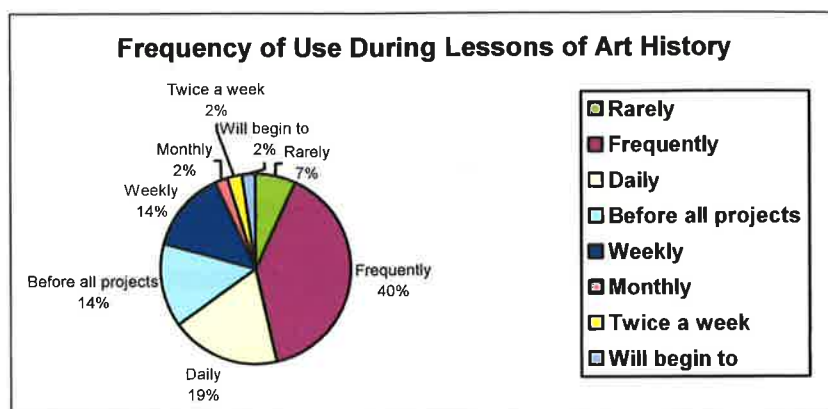
The following results are based on quantitative data from a post-evaluation of the art teachers of Cumberland County. Of the 84 total art teachers in the county, 43 were present at a two-hour mini-workshop during a Cumberland County staff development day. *The Art of Flight* (Appendix B.1) a cross-curricular study, created by the researcher, was presented during the mini-workshop, and is a concentration of art history with science and flight as the basis for subject matter. The need for this study arose from the science curriculum created by Cumberland County Schools' curriculum specialists to

coincide with the Centennial of Flight, 2003's national celebration of the Wright Brothers flight on December 17, 1903.

The Art of Flight consists of images of famous and not so famous artists who are highlighted to instruct students and teachers about weather, flight, stars and constellations, moons and planets, wind tunnels, and space travel. The cross-curricular study includes topics for discussion on science and art history, suggested hands-on activities, teacher reference materials, and a suggested list of children's books related to the subject matter. All teachers present at the mini-workshop were able to sign up to receive a copy of the compact disc (Appendix B.2) containing the PowerPoint® presentation, *The Art of Flight*, and a bound copy of the materials to utilize as part of their classroom instruction. Of the 43 art teachers present, 26 teachers expressed an interest in receiving a copy of the materials.

Derived from the respondents, each art teacher teaches on average of slightly more or slightly less than 412 students. The mini-workshop based on a PowerPoint® cross-curricular study dealing with art and science was presented using an LCD projector. The sample was asked if they were familiar with and could use PowerPoint®. Of the 43 respondents, 32 teachers said "yes" and 11 teachers said "no," they could not use PowerPoint®. Due to the fact that the cross-curricular supplement focuses on art history, the respondents were asked how often they used art history in their lesson implementation. The sample indicated (Figure 7) using art history in lessons as follows: (1) will begin to, (3) rarely, (17) frequently/often, (8) all the time/daily, (6) at the beginning of every project, (6) weekly, (1) every month, (1) twice a week.

Figure 7



Respondents were asked in what ways the mini-workshop was successful; their candid responses are documented in the following text. A teacher of only 2 months expressed, “It reminded me of how important talking about art pieces is. Good ideas, made me think of possibly using PowerPoint® for lessons, but I don’t know how to use it.” Some teachers expressed that they thought the workshop was “very interesting, a good use of resources.” Numerous teachers were excited about the connections made to science applications: “this workshop gave me ideas on how to integrate art and the air and space sciences,” “a good combination of science at all grade levels,” “interesting to see how science and art may work together,” Teachers also expressed the benefits of community collaboration: “links community activities and resources with classroom,” “inspires me to use Museum Resources,” “great ideas for Festival of Flight art lessons (a community-wide celebration in Fayetteville, NC based on the centennial of flight).” One teacher expressed enthusiasm in the workshop itself, “interesting topic made relevant with art history and mature, well thought out materials to go with it.”

Results

This study was designed to provide guidelines for meaningful and enriching art teacher professional development and to determine how museums have a role in such practices. The data analysis led the researcher to the answers to the question through the objectives of this research. Specific objectives of the research are: to determine what makes a professional development workshop meaningful to an art teacher and to determine what art teachers are interested in learning during professional development.

Before beginning to answer the question of what makes a professional development workshop meaningful to an art teacher, we must realize that teachers are not overwhelmingly satisfied with workshops they have previously attended. In Figure 5 (p 23), 40% of teachers surveyed in Cumberland County agree that they have attended meaningful workshops. According to the data analysis, teachers receive the most meaningful workshops when they are able to apply workshop experiences to their daily classroom activities, when it enriches the teacher or their teaching skills, and when they receive new skills or new teaching strategies that will benefit their classroom.

According to the data in Figure 4 (p 22), teachers have expressed that there are not enough opportunities in Cumberland County for teachers to participate in professional development workshops. This proves that FMOA has a valuable role in the professional development of our teachers by making summer and after school workshops available to teachers in the region. As stated earlier, Cumberland County Schools have built only two and a half days into the school calendar for professional development. Our teachers want and deserve more workshops than the county can provide. It is evident that the FMOA can play a significant role in providing enrichment for our local teachers.

Results showed that teachers are not only interested in more workshops but are also interested in a variety of topics for professional development. Figure 6 (p 23) shows that teachers of Cumberland County responded most favorably to Hands-on Projects with 32 teachers who "strongly agree" they would participate in a workshop on this subject. Closely behind, 22 respondents "strongly agreed" that a Gallery Tour would be a valuable topic for a future workshop. Teachers were divided among the rest of the topics in this category. The researcher believes that the topic of the workshop is not nearly as important to the teacher as the manner in which the topic is made applicable to teaching practice and made meaningful to the teacher.

Summary of Results

The results of this research that indicate art teachers of Cumberland County are not overly satisfied with professional development workshops attended. Additionally, it has been indicated through completed surveys, that teachers would like to have more opportunities to participate in quality workshops. Based on results, the FMOA could play a role by providing more opportunities and topics for professional development during the summer, after school, and/or weekends to supplement Cumberland County's previously integrated development workshops.

Discussions and Implications

Summary of Findings Relating to the Primary Research Question

Two objectives were explored to determine the role the FMOA can play in professional development. One objective of this research was to determine the components of a meaningful professional development workshop. According to those surveyed, workshops are beneficial to teachers when subject matter is applicable to daily classroom instruction, enriching to the teacher as an artist, and/or provides new teaching strategies.

The second objective of this research was to determine topics for future professional development workshops. Respondents' answers are detailed in Figure 6 (p 23). All topics from gallery tours to holistic curriculum workshops were looked upon favorably by a majority of those surveyed.

Implications

This research, a beginning phase of a more involved partnership, has provided significant insights into the dynamics of professional development workshops for art teachers. Although the surveyed respondents have recognized the importance of teachers in collaborative initiatives involving art teachers and museums, the gathered data offers evidence that actual participation of teachers is limited.

The developers of a Museum/School partnership must work toward initiatives that take both organizations mission's into consideration. Through flexibility and adaptability the partnership can be successful in developing reform strategies that enrich professional development for teachers and thus enriching the education of their students. A successful

Museum/School partnership with quality art teacher education and professional development for all teachers focusing on curriculum integration across content areas requires planning and strong implementation strategies.

Based on the results of this research a model has been created to facilitate the realization of a partnership between Museum and Public School System. The first step in moving towards this partnership has been outlined in the methodology section of this thesis. To summarize, a museum or school system should first develop a series of needs-assessment surveys to determine what the needs of the parties involved are and how each organization can best help to meet these needs. A second step in actualizing the partnership is to create an advisory committee (Appendix C.1) made up of three components: public school curriculum specialists, teachers, and art museum education directors. It is the role of the advisory committee to develop a mission statement, create primary initiatives, build a sense of community among members, and formulate a project budget.

In order to develop a common mission statement for the committee, each member must first review the mission statement of their respective organizations to ensure the new partnership is in accordance with their organizations current long-range plan. Therefore, creating a mission statement for the committee's project should be in line with goals each entity is already working towards. An educated citizenship in a democratic society is a typical theme among mission statements' for both public schools and museums. An example is the mission statement for Cumberland County Public School system which is "to provide the highest level of knowledge and skills possible, in a

proper educational environment, to prepare each student to participate fully in our society” (Cumberland County Schools, December 5, 2002).

In creating primary initiatives the advisory committee must build on the mission statement and create goals, objectives, and outcomes for this partnership. The initiatives might look like the following: 1) creating combined implementation by public school curriculum specialists and the art museum for the professional development of art teachers, and 2) professional development of curriculum integration across content areas for all teachers.

Building a sense of community among committee members is a key step in achieving success of an endeavor of this magnitude. Methods for collaboration might begin with adding each committee member to the other organization’s mailing lists, creating links on websites to community resources and public school systems, sharing of resources for meetings and events, and other informative methods of collaboration.

Not surprisingly, all participants of the advisory committee belong to non-profit organizations, therefore, it is imperative for the committee to create a budget as soon as the planning process allows in order to have time to generate the funds necessary to implement the project. Co-writing grants as a collaborative partnership is an integral part of achieving the appropriate funding necessary for implementation. Another unlikely but possible solution is planning that provides funds in the operating budget for the next year of implementation. Upon committee creation, organization, and the beginning stages of project planning the advisory committee is now charged with the implementation of the professional development collaborations.

This study raises questions for the researcher to pursue in the area of teacher preparation that deserves further examination. Art educators are in an important position of teaching students to be culturally aware and to gain an appreciation for the art museum. Future research should investigate ways to best instruct pre-service teachers to prepare for this role.

Conclusion

Public school education, with the integrated curriculum at its forefront, must incorporate art education for implementation and successful execution for effectiveness. With this in mind, it is an important time in arts education for art specialists, teachers, professors, and museum educators to actively advocate for the valuable role the arts play. Museums have the opportunity to be leaders at the community, state, and national levels for arts advocacy.

Moreover, arts education programs are strongest when at least three forces collaborate in educational endeavors: public school administrators, art museums, and teachers. The results of this research have supported the role of a museum in providing meaningful and enriching professional development opportunities for art teachers. Furthermore, the results have provided criterion for not only the FMOA's professional development workshops locally and statewide but also have provided a working model for other museums.

References

- Cumberland County Schools (2002, January 15). Facts & Figures. Retrieved February 8, 2002, from <http://www.ccs.k12.nc.us>
- Cumberland County Schools (2002, December 5). Policy. Retrieved December 5, 2002, from <http://www.ccs.k12.nc.us>
- Fayetteville Museum of Art (2001, June 30). Progress Report Summary Fiscal Year 2000/2001.
- Fayetteville Museum of Art (1998, June 17). Annual Meeting of the General Membership, Board of Trustees By-Laws.
- Hein, G.B. (1998). *Learning in the Museum*. New York: Rutledge.
- Henry, T. (2002). Study: Arts Education has Academic Effect. *USA Today*, 1-2. Retrieved September 17, 2002, from <http://www.usatoday.com/news/education/2002-05-20-arts.htm>
- Hodgson, J. (1986, June). Teaching Teachers: Museums Team Up with Schools and Universities. *Museum News*, 64 (5). 28-35.
- Liu, W. (2000). Art Museum Educators' Attitude Toward the Role of the Teacher in Art Museum-Elementary School Collaboration. *Visual Arts Research*, 26 (1), 75-84.
- Martinello, M. & Gonzalez, M. (1987, Fall). The University Gallery as a Field Setting for Teacher Education. *Journal of Museum Education*, 12 (3), 16-19.
- Miller, P.K. (1983, September). Art Teacher Training Must Change! *Art Education*. 36 (5). 42-43.
- Newsom, B., & Silver, A.Z. (Eds.)(1978). *The Art Museum as Educator: a collection of studies as guides to practice and policy*. Councils on Museums and Education in the Visual Arts. Berkley: University of California Press.
- North Carolina Department of Public Instruction (2002, April 21). Basic Education Plan. Retrieved May 5, 2002, from http://www.ncpublicschools.org/basic_ed_plan/
- Pittman-Gelles, B. (1981). *Museums, Magic, and Children: Youth Education in Museums*. Washington, DC: The Association of Science-Technology Centers.
- Stone, D.L. (1995). Elementary Art Specialists' Comfort Level in Teaching in the Art Museum Setting. *Visual Arts Research*, 20 (3), 76-81.
- Stone, D.L. (1992). Elementary Art Specialists' Utilization of the Art Museum: A

- Survey. *Visual Arts Research*, 18 (1), 72-81.
- U.S. Census Bureau (2001, September 24). State and County Quick Facts. Retrieved November 6, 2001, from [http:// quickfacts.census.gov/qfd/states/37/37051.html](http://quickfacts.census.gov/qfd/states/37/37051.html).
- Womble, S. (2000, August). Georgia Hits Bottom in SAT Scores. *Online Athens*, 1-4. Retrieved September 17, 2002, from http://www.onlineathens.com/stories/083000/new_0830000037.shtml
- Yakel, N., & Caron, R. (1984, September). Teacher Training in Arts Education: Regina's Unique Approach. *Art Education*, 36 (5), 42-43.
- Zeller, T. (1987). Museums and the Goals of Art Education. *Art Education*, 40 (1), 50-55.

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A Cross-Curricular Supplement

Appendix C

1. Appendix C.1
Advisory Committee
Museum/School Partnership

Appendix A.1

Fayetteville Museum of Art (FMOA)

Needs Assessment Survey-Teacher

October 15, 2001

Your answers will be handled with the strictest confidence and will be tabulated with others to determine how the museum can better meet the needs of and form partnerships with Cumberland County art teachers. Thank you for your time and assistance:

1. Please indicate your amount of teaching experience:

_____ 1-3 yrs. _____ 4-9 yrs. _____ 10-15 yrs. _____ 15-30 yrs. _____ 30 or more yrs.

2. Please indicate which of the following **FMOA resources** you have used in your teaching practice:

_____ Gallery Tour	_____ Hands-on Tour
_____ Outdoor Sculpture Tour	_____ Art Trunks
_____ MUSE Partnership	_____ Guest Lecturer
_____ Art Resource Library (slides, prints, books, & videos)	
_____ List Other _____	

For questions 3-5 & 7 use the following scale to evaluate the statements:

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly Disagree

3. Respond to the statement: The following FMOA programs are a valuable classroom resource for art teachers.

_____ Gallery Tour	_____ Hands-on Tour
_____ Outdoor Sculpture Tour	_____ Art Trunks
_____ MUSE Partnership	_____ Guest Lecturer
_____ Art Resource Library (slides, prints, books, & videos)	
_____ List Other _____	

4. There are **ample opportunities** for art teachers to participate in professional development in Cumberland County. (circle one)

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly Disagree

5. The professional development workshops I have attended were **meaningful** to my teaching practices. (circle one)

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly Disagree

6. What makes a professional development workshop meaningful to you?

7. Using the following scale, which programs would you participate in for staff development.

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly Disagree

_____ Gallery Tours	_____ Art History Lectures
_____ Hands-on Projects	_____ Student Assessment Workshop
_____ Multicultural Issues Presentation	_____ Special Needs Student Presentation
_____ Bi-lingual Classroom Demonstration	_____ Holistic Curriculum Workshop

List other topics of interest: _____

8. In what ways can the FMOA be involved in meaningful activities that support student learning?

Please return survey to: Michele Horn

Fayetteville Museum of Art, 839 Stamper Road, Fayetteville, NC 28303 • (910) 485-5121

Appendix A.2

Fayetteville Museum of Art (FMOA) Needs Assessment Survey-Museum

Your answers will be handled with the strictest confidence and will be tabulated with others to determine how Museums are meeting the needs of their local art teachers.

Thank you for your time and assistance:

1. Please indicate your amount of Museum experience:

_____ 1-3 yrs. _____ 4-9 yrs. _____ 10-15 yrs. _____ 15-30 yrs. _____ 30 or more yrs.

2. What is the highest degree you have completed or are working on?

3. Please indicate the name of your Museum? (optional)

4. How many staff members are in your education department? _____

5. Respond to the statement: Our Museum provides the following classroom resources for art teachers.

_____ Museum Gallery Tour

_____ Hands-on Museum Tour

_____ Visiting Artist Lecturer

_____ Artifacts on Loan

_____ Art Resource Library (slides, prints, books, & videos)

_____ Curriculum Guides

_____ List Other _____

6. There are ample opportunities for art teachers to participate in professional development in my Museum. (circle one)

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly

Disagree

7. There is a need for professional development workshops in my region. (circle one)

5- Strongly Agree 4-Agree 3-No opinion 2-Disagree 1-Strongly

Disagree

8. Which programs have you made available for staff development.

_____ Gallery Tours

_____ Art History Lectures

_____ Hands-on Projects

_____ Student Assessment Workshop

_____ Multicultural Issues Presentation

_____ Special Needs Student Presentation

_____ Bi-lingual Classroom Workshop

_____ Holistic Curriculum Workshop

List other topics: _____

9. In what ways is your Art Museum involved in meaningful activities that support student learning and teacher staff development in your community?

Please return survey to: Michele Horn

Fayetteville Museum of Art, 839 Stamper Road, Fayetteville, NC 28303 • (910) 485-5121

Appendix A.3

Fayetteville Museum of Art (FMOA) Needs Assessment Survey October 7, 2002

This survey will be handled with the strictest confidence. Your answers will be tabulated with others to determine how the museum can better meet the needs of and form partnerships with Cumberland County art teachers.

Thank you for your time and assistance:

1. Please indicate your amount of teaching experience: _____ years
2. What grade level do you currently work with? _____
3. How many students are you currently teaching in your school(s)? _____
4. Are you familiar with and can you use power point? _____ yes _____ no
5. Do you have access in your school to an LCD projector? _____ yes _____ no
6. How frequently do you use art history in your lessons? _____
7. In what ways was today's mini-workshop successful? _____



The ART of FLIGHT
A Cross-Curricular Supplement

Michele R. Horn

Fayetteville Museum of Art

839 Stamper Road • Fayetteville, NC 28303 • (910) 485-5121
www.fayettevillemuseum.org



- | | |
|-------------------------|------------------------------|
| 1. Weather | 4. Moons & Planets |
| 2. Airplane &
Flight | 5. Stars &
Constellations |
| 3. Wind Tunnel | 6. Space Travel |

WEATHER



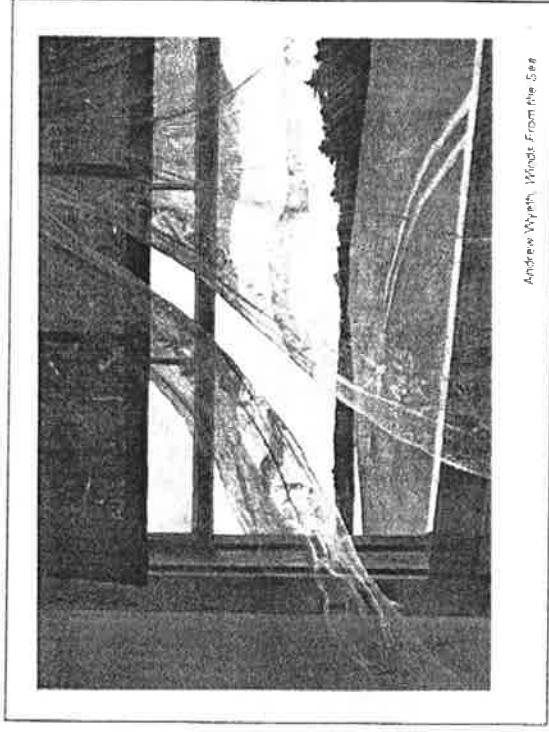
- Wind
Wyeth, Hokusai
- Precipitation / Rain & Snow
Prendergast, Chase, Kandinsky, O'Keeffe, Bellows
- Clouds
Homer, Stokes

Wind – Beaufort Scale

Precipitation – identify types of rain, snow, etc

Clouds – Formation of clouds

Weather conditions that produce different clouds



Andrew Wyeth, American painter

Notice the title, Is the wind different when it comes off of the sea?
 How does Wyeth lead your eye to the sea? This is a directional device. How would the painting be different without the road?
 How does the artist show you there is a wind blowing?
 Do you think the wind is a strong gust or a gentle breeze?
 Why is wind important to flight and to a pilot? (see windtunnels)

Winds of Change a Folktale

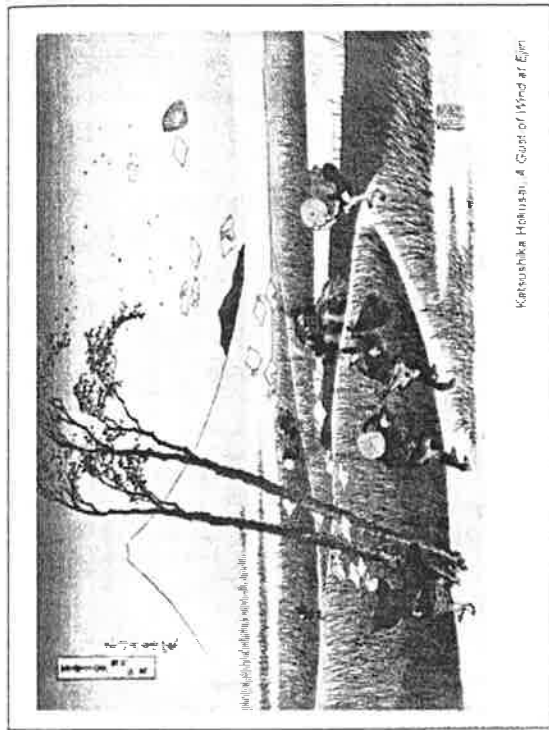
Long ago, people believed that special wind gods, or the earth breathing in and out, caused winds to blow. Today we know that winds are created by high-pressure and low-pressure areas.

Even though we can't feel it, the air around us has weight and therefore pressure. The air is heated by the sun, but it is heated unevenly, thanks to such features as mountains and bodies of water. As some of the air is heated, it rises. This rising causes a low-pressure area to form beneath it. Air from higher-pressure areas then drops to take its place. This exchange and movement of air is what we call wind.

Milord, Susan "Tales of the Shimmering Sky"

Image from:

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.



Hokusai, Japanese print

Another windy scene in a different part of the world. People huddle against the strong wind and struggle to hold on to their belongings.

Do you think the people are in danger?

How did the artist depict movement and energy?

Is this wind stronger in Hokusai's print than in Andrew Wyeth's painting?

Both works of art are of a landscape. Compare/Contrast the composition of both landscapes.

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.

Suggested Activities:

Draw, Design & Paint by Jan Barry (available from FMOA library)

Beaufort Scale	Visual Indicators
0 - Calm	Smoke rises
1 - Light Air	Smoke drifts
2 - Light Breeze	Leaves rustle; vanes move
3 - Gentle Breeze	Leaves and twigs move
4 - Moderate Breeze	Branches move; flags flap
5 - Fresh Breeze	Small trees sway; whitecaps on water
6 - Strong Breeze	Large branches move; flags beat
7 - Moderate Gale	Whole trees move
8 - Fresh Gale	Twigs break; walking is difficult
9 - Strong Gale	Signs, antennas blow down
10 - Whole Gale	Trees uproot
11 - Storm	Much general damage
12 - Hurricane	Wide-spread destruction

The Beaufort scale determines wind-speed by using visual clues. The scale ranges from 0 (calm) to 12 (winds of a hurricane). What number on the Beaufort scale do you think is depicted in the two previous slides? When you create a piece of artwork, do you create a scene where the wind blows? If yes, what number on the Beaufort scale have you created?

Suggested Activities:

Ways to measure wind speed

Create a Kite / Windsock

Origami paper folded kite of Asia

Ways to create wind

Create a Fan

Nigerian leather with appliquéd geometric designs

Japanese hand-painted silk folding fan

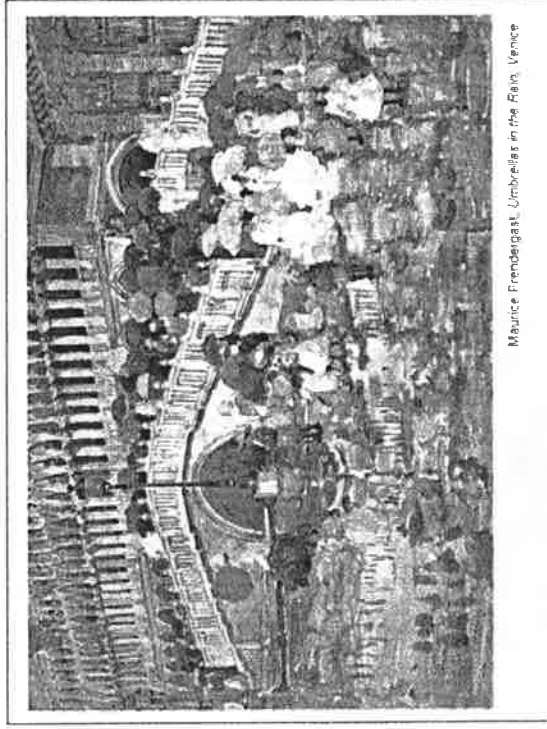
Ways to depict wind

Draw or paint a windy day scene

See "Tales of the Shimmering Sky" by Susan Milord for ideas. (Book available from the Art Library at the FMOA)

Precipitation

- Rain - Prendergast, Chase, Kandinsky,
- Snow - Prendergast, O'Keeffe, Bellows,



Do you see any raindrops? How do you know it's raining?

Sometimes rainy days are a mirage of colors. Notice how the colors of the passersby are reflected in the puddles.

What type of brushstroke did this artist use to create puddles of water?

Does this technique look difficult to do?

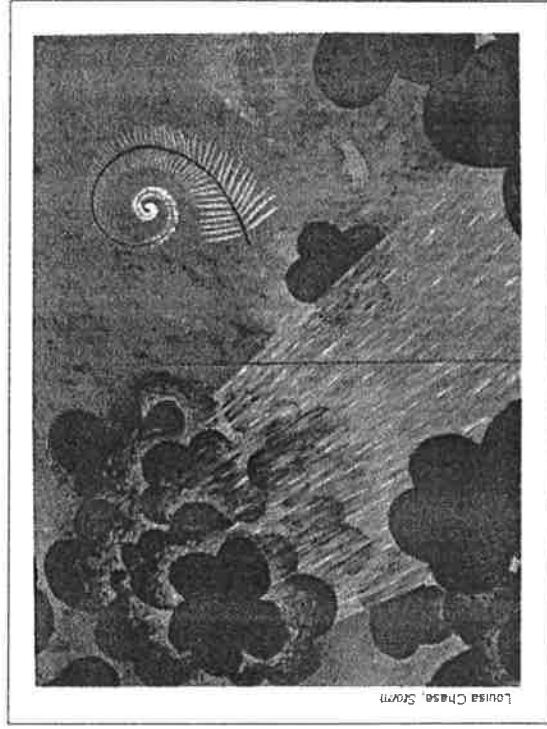
Can pilots still fly planes in the rain? Do you think they have to take special precautions?

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.



Did the artist paint rain in the scene? What type of line was used?
 How long do you think it has been raining? How do you know, what clues did the artist give?
 What types of brushstrokes are used? Does it look like it was done quickly or slow and methodical?
 What mood did the artist create with color? Are colors usually this vibrant when it rains? Can you see the sun beginning to peak?
 Can you find puddles in this landscape painting?

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.



Rain is streaming from black cumulus clouds. How did the artist depict the rain? How is this similar or different to the previous painting?

Is this scene naturalistic?

Suggested Activities:

Ways in which primitive cultures depict rain?

- Cave art
- Native Americans

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.



Maurice Prendergast, April Snow

Image from http://www.artcyclopedia.com/artists/prendergast_maurice.html

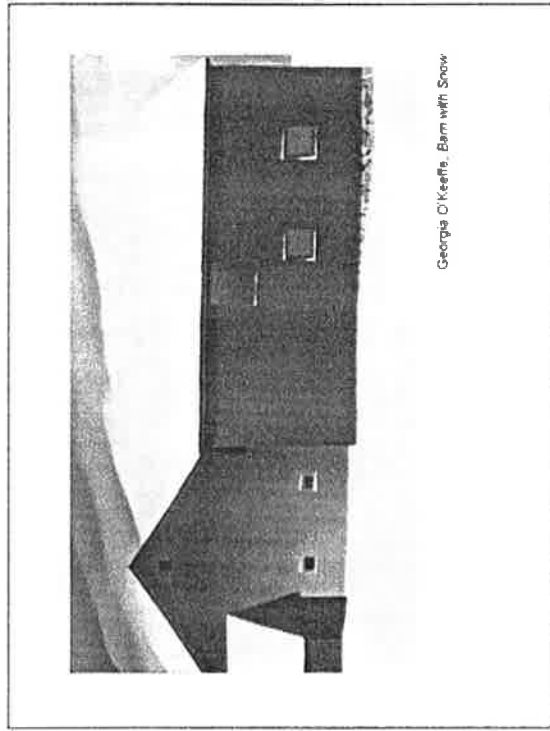


Image from <http://cgi.www.sandiegomuseum.org/cgi-bin/www.sandiegomuseum.org/image.pl?mode=&painting=143383&axis=1032809682>

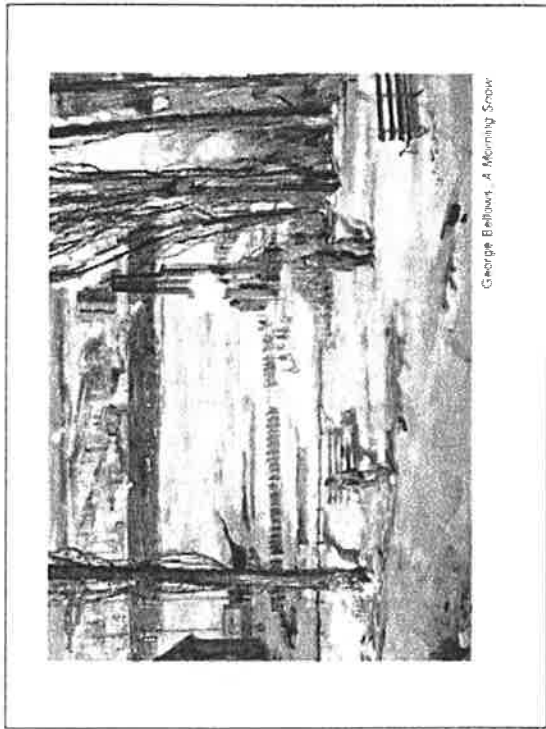
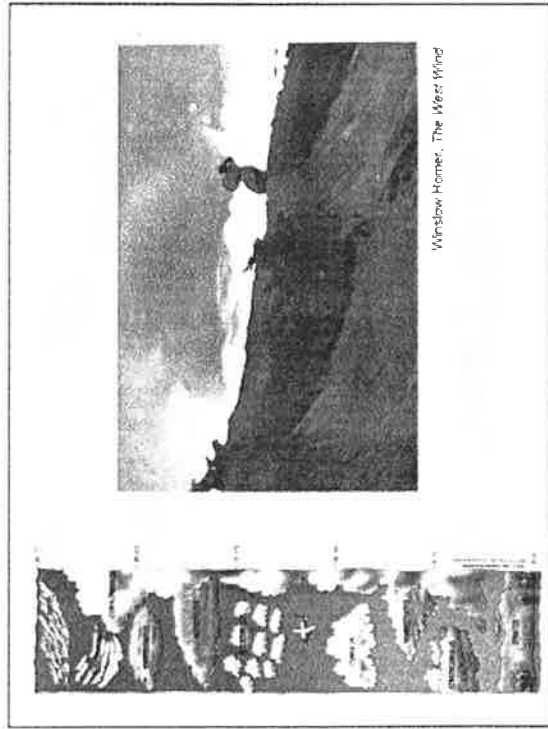


Image from http://www.artchive.com/artchive/B/bellows/morning_snow.jpg.html

Clouds

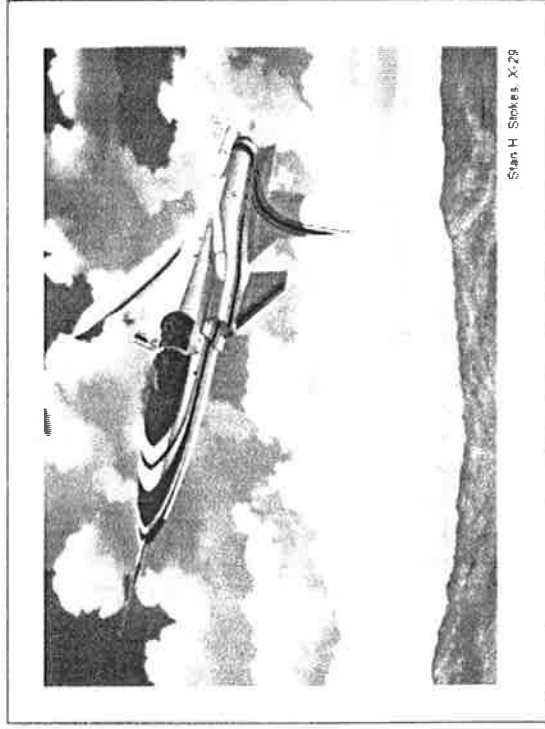
- Winslow Homer
- Stan Stokes



On the left, a cloud chart depicting various cloud formations. Pilots must be aware of weather changes such as clouds, wind and precipitation in order to provide a safe flight for their passengers.

"Tales of the Shimmering Sky" Susan Milord

Carroll, Colleen. "How Artists See THE WEATHER", Abbeville Publishing Group, 1996, New York.



Work of art to be included in Fayetteville Museum of Art's *Pushing the Limits* exhibition May 3 - June 8, 2003

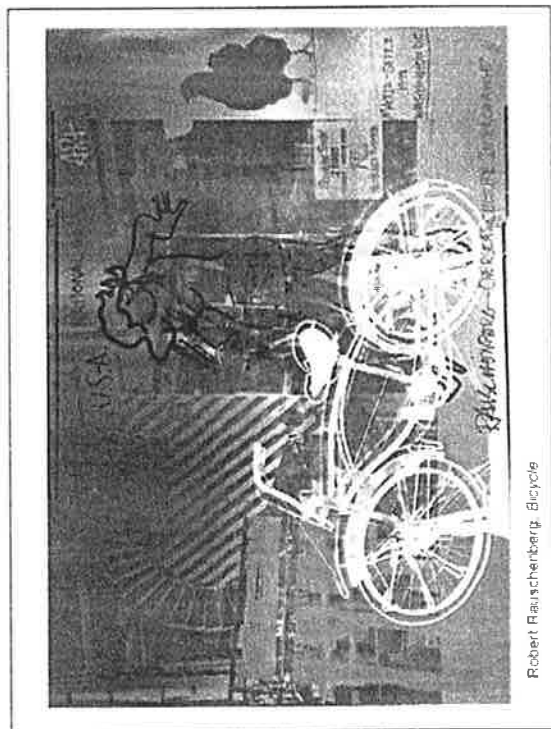
Image courtesy of NASA



AIRPLANE & FLIGHT

- Robert Rauschenberg
- 1950's
- Leonardo Da Vinci
- 1480's
- Andrew Wyeth
- 1940's
- Roy Lichtenstein
- 1960's

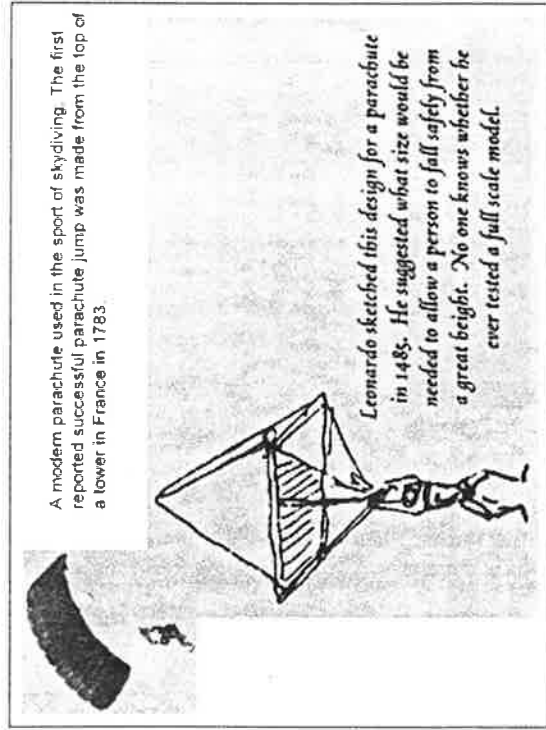




Robert Rauschenberg – Bicycle

- Assemblage & collage
- 20th century
- Looks like cuttings from newspaper
- Why a bicycle? What does this have to do with flight?

Wright Brothers owned a bicycle shop in Dayton, Ohio. They were able to use a good deal of their knowledge of bicycle mechanics in the creation of the first flying machine.



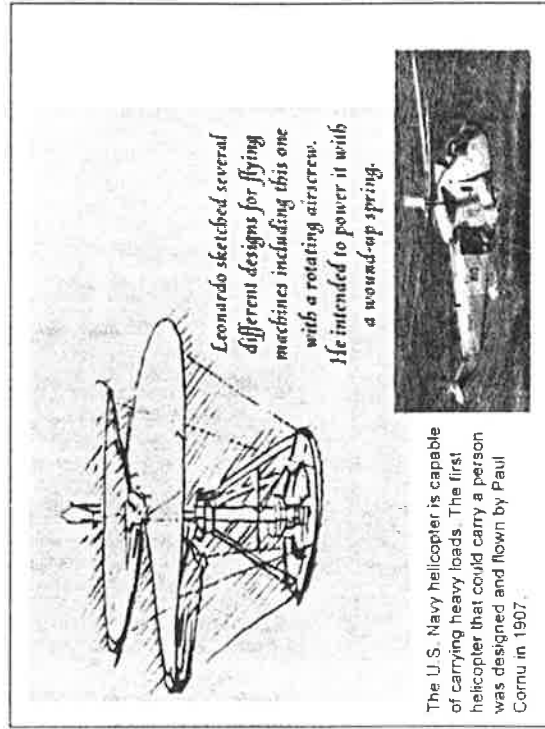
Leonardo da Vinci - Parachute drawing

- High Renaissance (1495-1520)
- Worked as a military engineer (on the side was an architect, sculptor, & painter)
- He has a cultural background and a rapport between the artist and the scientist
- Created many drawings that were never to be implemented. Sketchbook

Image from www.mos.org/sln/leonardo

Additional supplement:

Leonardo Da Vinci for Kids by Janis Herbert (available from the FMOA library)

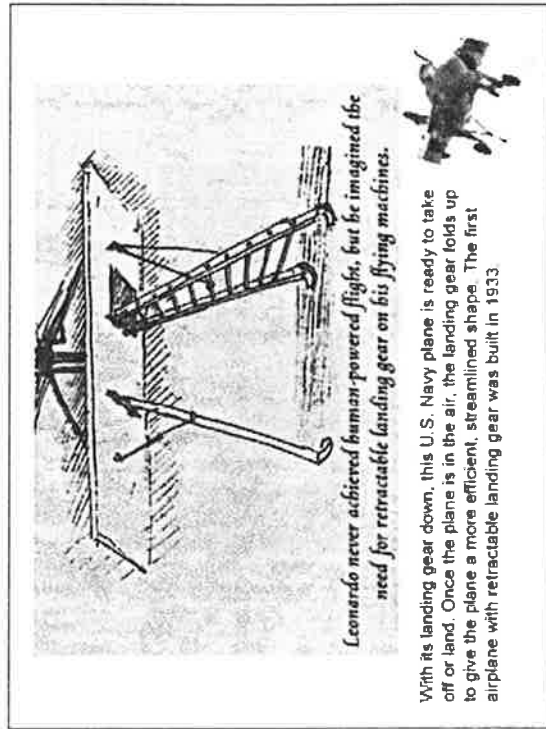


Helicopter

Image from www.mos.org/sln/leonardo

Suggested Activity:

What Shall I Draw? By Ray Gibson (Available from FMOA library)



Landing Gear

Image from www.mos.org/sln/leonardo

Suggested Supplement:

Da Vinci: The Painter Who Spoke with Birds by Yves Pinguilly (available from the FMOA library)



Buzzard in flight. A Glider looks identical to the buzzard. Engineers are trying to duplicate the change in shape of the birds wings into the technology of planes and their movement in flight.

Image from www.allposters.com/gallery



This futuristic painting was created by DeLaunay, a French Artist. Notice the title of this work. What kind of tower do you see? What type of airplane do you see depicted? Where is the sun? How did DeLaunay use color in this painting?

Image from <http://www.albrightknox.org/ArtStart/Delaunay.html>

Suggested supplement:

Arty Facts: Planet Earth and Art Activities by John Copper (available from FMOA library)



Lichtenstein - BLAM!

- Pop Art
- comic strip
- Violent action
- Greatly enlarged single frames
- Text balloons
- Impersonal
- Simplified black outlines
- Dots for replicating printing color

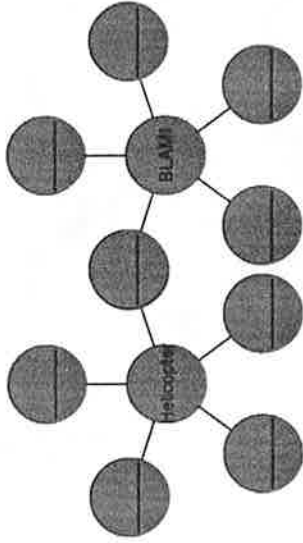
Image from www.lichtensteinfoundation.org/0137.htm

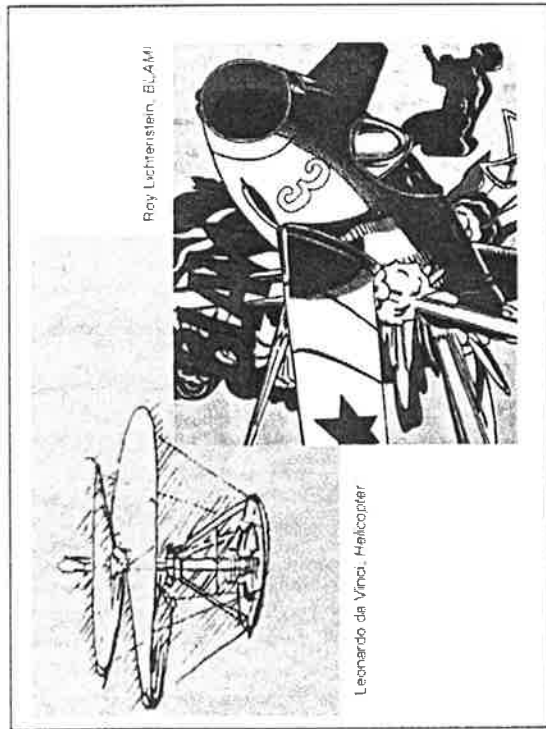


Post September 11, 2002 our children are living with the sight of the airplane as a destructive device. The Festival of Flight is an attempt to change the perception our children have of flight.

Image from www.lichtensteinfoundation.org/0070.htm

DA VINCI VS LICHTENSTEIN





Da Vinci - Helicopter (vs.) Lichtenstein - BLAM!

1. What is the subject matter?
2. What techniques are used?
3. What about composition?
4. What time period is it from/ style?
5. What was the artwork used for?
6. Do you have a favorite?
7. Why do you like one piece over the other?

Instructional Supplements:

Student Books

Nobody Owns the Sky, Reeve Lindbergh-1996 (ages 5-8)

The Wright Brothers at Kitty Hawk, Donald J. Sobol-1961 (young reader)

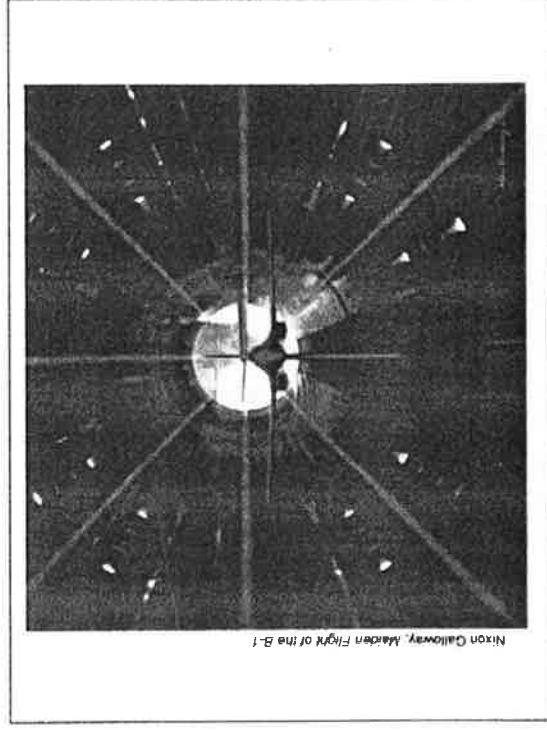
Amelia Earhart - Pioneer of the Sky, John Parlin - 1962 (young reader)

Teacher Books

Engineering and the Mind's Eye, Eugene Furguson

Wind Tunnel

- Nixon Galloway
- NASA Space Shuttle model



A model of the B-1 is ready for testing in the massive 16 foot Transonic Tunnel at Langley Research Center

(Image courtesy of NASA)

"Wind tunnels help researchers understand the forces acting on an object as it moves through the atmosphere. They are also used to measure and minimize the noise produced by aircraft and to optimize engine efficiency. Although primarily used for aircraft, other objects such as spacecraft, automobiles, ships, trucks, and wheelchairs have been tested in Langley wind tunnels."

Fact Sheet – Langley Research Center

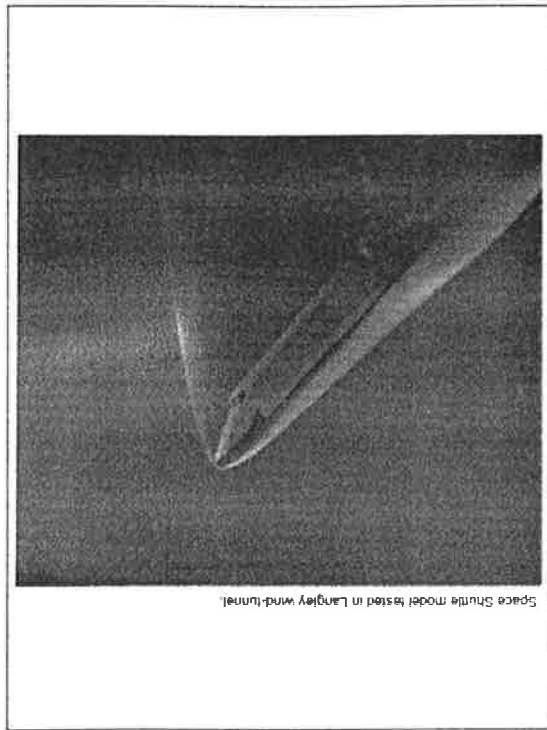
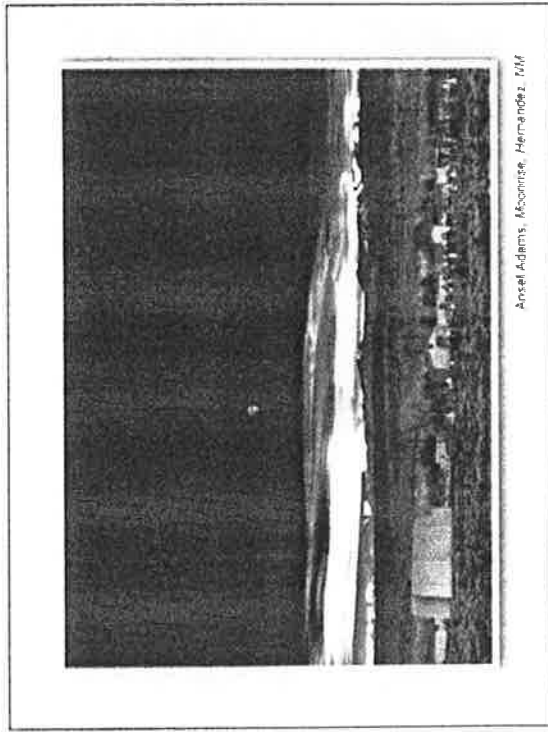


Image from "Winds of Change – Expanding the Frontiers of Flight" Langley Research Center

Moons and Planets

- Ansel Adams
- Max Beckman
- Mary Edna Frasier





Ansel Adams, Moonrise, Hernandez, NM

Image from www.anseladams.com

Suggested Supplement:
Kid's Celebrate! By M. B. Esche (available from FMOA library)

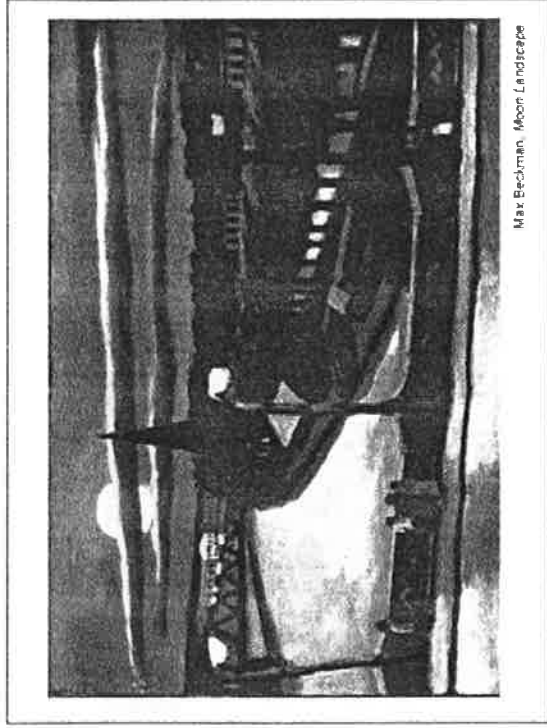


Image from http://www.artcyclopedia.com/artists/beckmann_max.html

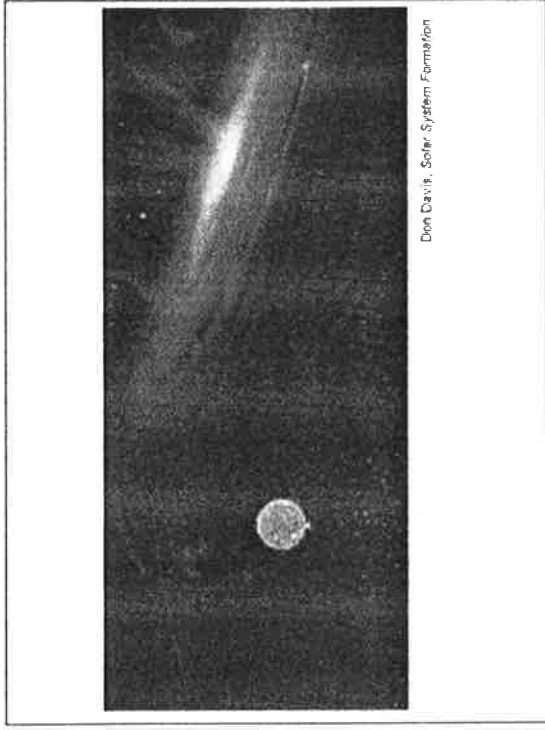
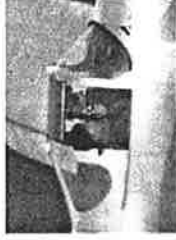


Image from www.donalddavis.com

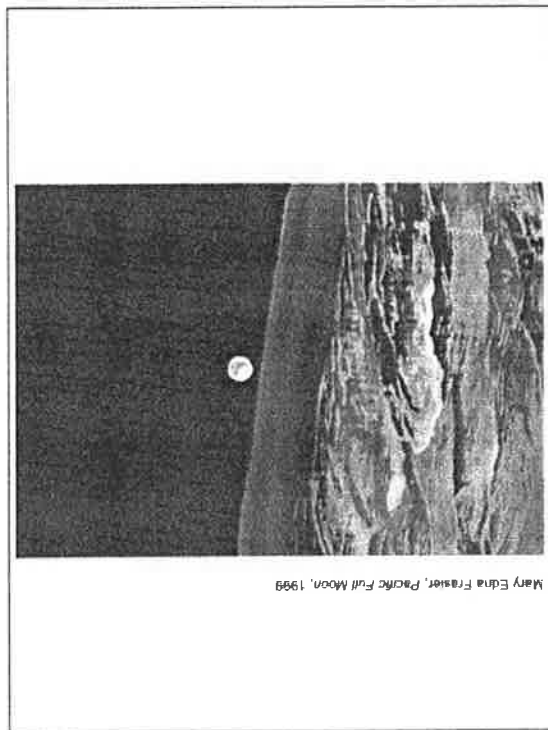
Mary Edna Frasier



- Lived in Fayetteville, now a resident of Charleston, SC
- Batik artist with an interest in aerial viewpoints

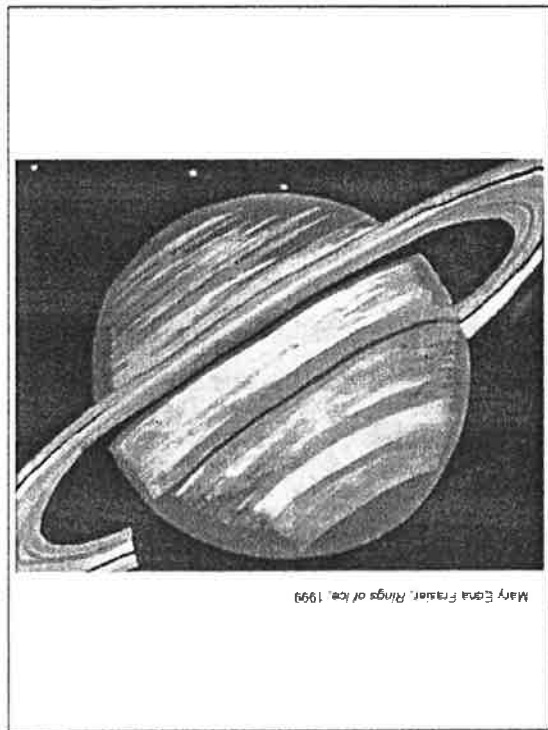
Mary Edna Frasier's work will be display in an exhibition at the Crown Coliseum during the Festival of Flight, May 19-26th.

Images from artist's website www.maryedna.com



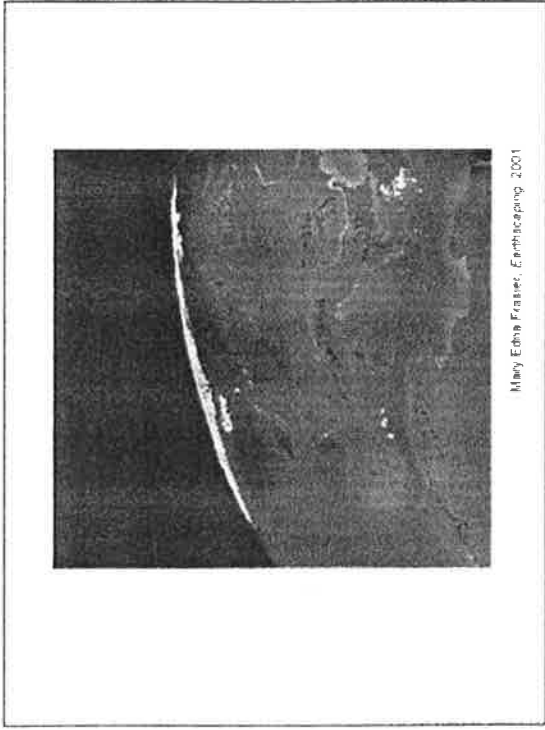
Batik of full moon.

Image courtesy of artist



Batik of Saturn

Image courtesy of artist

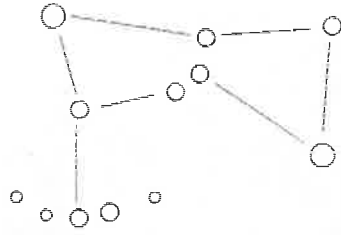


Mary Edna Fraser, *Earthscaping*, 2001

Image courtesy of artist

STARS & CONSTELLATIONS

- Vincent Van Gogh -1870's



- Charles Burchfield -1950's

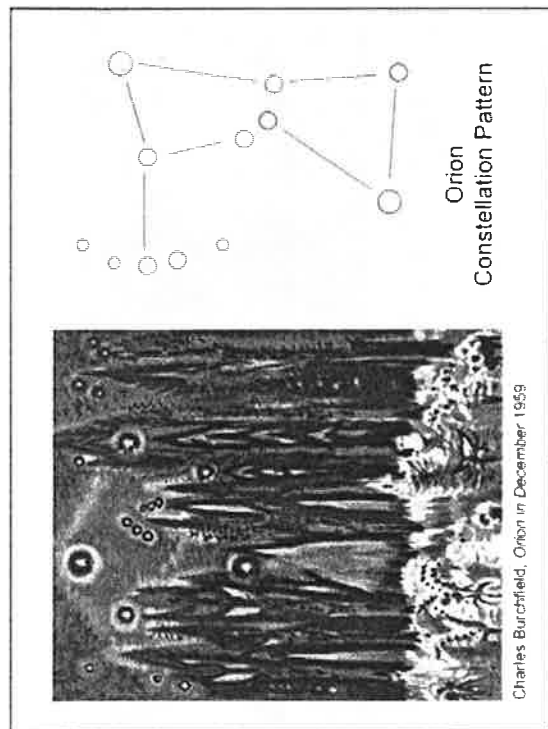
Orion constellation depicted



Vincent Van Gogh – Starry Night (1853-1890)

- Constellations
- Post Impressionist
- Painted with emotions
- Swirly brushstrokes – color not form determined the expressive content of his images
- Devoted time to landscape painting

<http://www.getty.edu/artsednet/resources/Aeia/disc-lp.html>

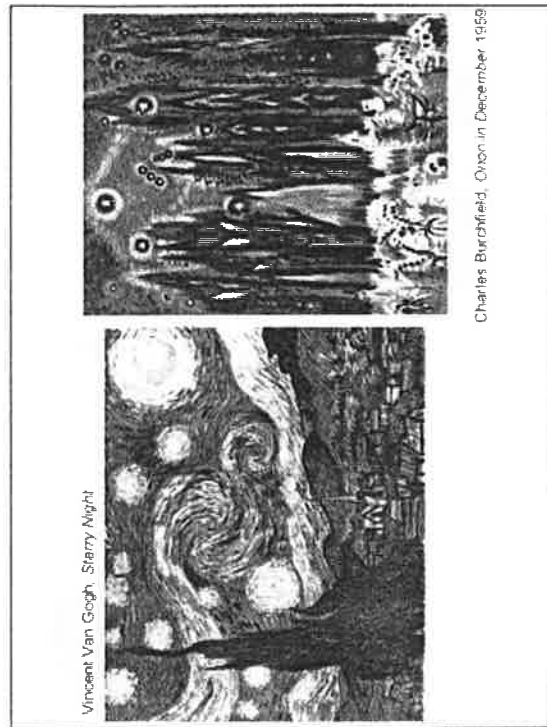


Charles Burchfield – Orion in December, 1959

- Burchfield is an American artist who lived in Ohio
- Three stars in a row- Orion constellation

Suggested supplement:

Miro: Earth and Sky by Claire-Helene Blanquet (available from the FMOA library)



Compare and Contrast these two works of art: style, composition, subject matter, influences.

Instructional Supplements:

Student Books

Vincent Van Gogh: Sunflowers & Swirly Stars, Joan Holub (ages 4-8)

The First Starry Night, Joan Shaddox Isom

Suggested Activities:

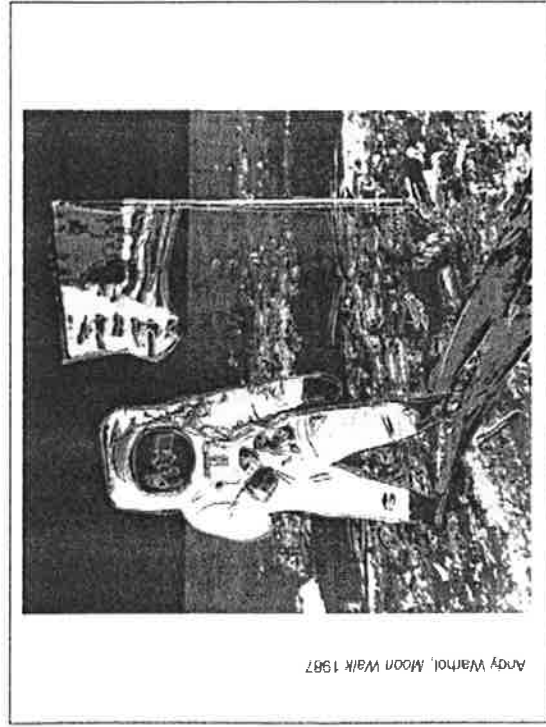
www.getty.edu/artsednet/resources/Aeia/disc-lp.html



Space Travel

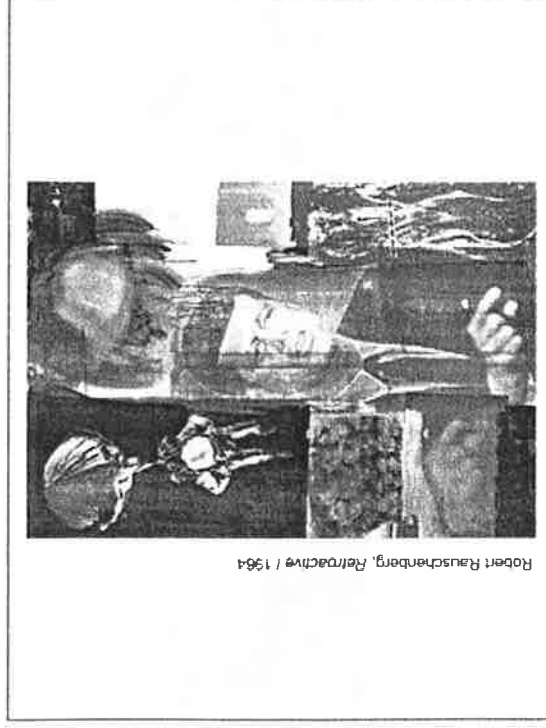
- Andy Warhol -1960's
- Robert Rauschenberg -1950's
- Nathan Green - NASA
- Tom Grubb -1990's





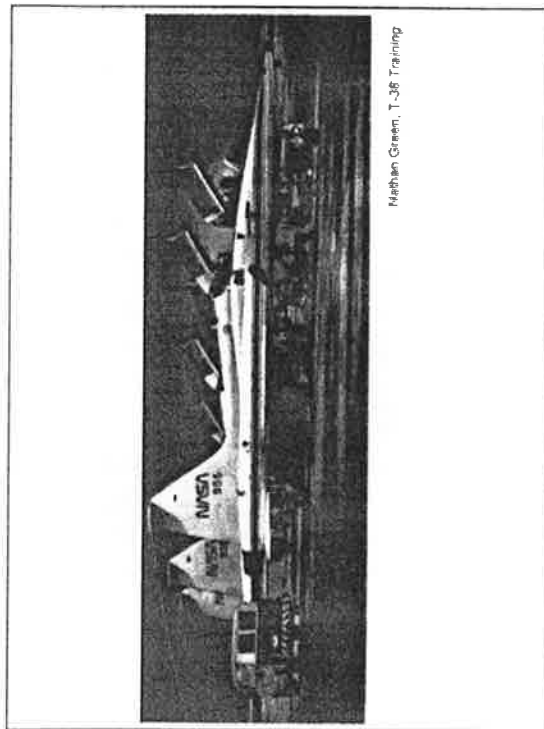
Andy Warhol – Moon Walk, 1987

- Pop Artist – viewed commercial culture as its raw material, endless source of subject matter
- Former commercial artist
- Commentary on media and society
- Silk screen – registration is off (common in his work) on purpose?
- Mass media photo by Neil Armstrong of Buzz Aldren planting U.S. Flag on the moon



Robert Rauschenberg – Retroactive I - 1964

- Assemblage & collage
- 20th century
- Looks like cuttings from newspaper/ mass media
- Political commentary – Who is pictured? John F. Kennedy
- Space travel – late 1950's-early 1960's (first satellites then space shuttles with man aboard)
- Image of popular culture with articles of daily life



Mathan Green, T-38 Training

Astronaut pilot waits in the cockpit of a T-38 as the aircraft is refueled by a ground support vehicle at Johnson Space Center

Work of art to be included in the *Pushing the Limits* exhibition at the Fayetteville Museum of Art (May 3-June 8, 2003)

Image courtesy of NASA

Tom Grubb



- North Carolina native
- Math teacher
- Vietnam missile technology instructor
- Sea Captain
- Artist residing in Fayetteville, NC

Picture courtesy of the artist.



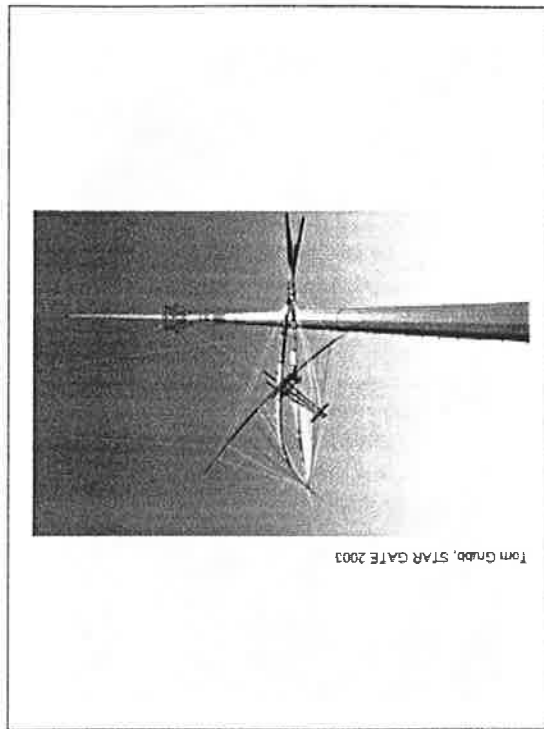
Tom Grubb – Flights of Discovery, 2002

- Depicts past and present – Wright flyer image Da Vinci style with NASA space shuttle
- Military missal engineer, captain of ships, math teacher, artist
- Architectural in nature
- Graph depicts mathematical calculations of space travel
- Use of bamboo to simulate star constellations

Image courtesy of the artist.

Suggested Activity:

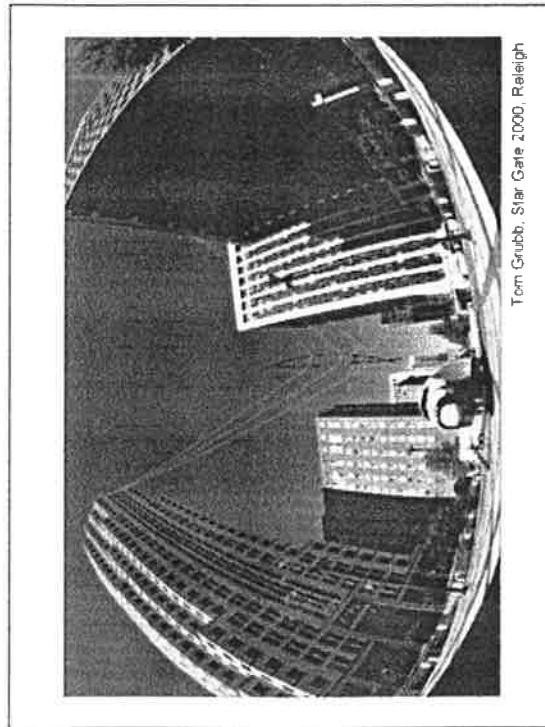
What Shall I Draw? By Ray Gibson (available from FMOA library)



Star Gate 2003 will be presented at the opening ceremonies of the Festival of Flight.

The sculpture measures 100-feet in length by 45-feet in width and will be suspended between two towers which are 138-feet in height. The suspended element of the sculpture is fabricated from bamboo and rope. Grubb in all of his works of art explores concepts of "space" and "time". In Star Gate 2003 a merging of technology with the ephemeral bamboo and rope installation will present to the viewer an insight into the "human" element that is so often missing in the world of high tech design. Bamboo throughout history has represented "mankind", bending in the wind and springing back after adversity. Star Gate 2003 will incorporate a solar panel that will charge batteries to power a number of instruments attached to the sculpture. The sculpture will carry navigation lights of red and green and they will burn at night for a period of three hours. The batteries will also power a remote weather station located onboard the suspended element of the sculpture. Video cameras positioned on various sectors of the sculpture will provide images that will give the viewer the sensation of "riding the wind" as the sculpture moves in a pendulum motion.

Image and the above information are courtesy of the artist.



An image of Star Gate 2000 that was presented for the millennium celebration in Raleigh, NC. Star Gate 2000 swings from buildings in Downtown Raleigh, this image also depicts an educational "space shuttle" that has been parked under the Grubb sculpture.

Image courtesy of the artist.

Instructional Supplements:

Student Books

Space Spinner, by Suse MacDonald-1991

Papa, Please Get the Moon For Me, by Eric Carle-1986

Amanda Visits the Planets, Gina Ingoglia-1998 (pre-school)

Teacher Reference

Arty Facts Space & Art Activities, Crabtree Publishing-2002 (elementary)

Suggested Activities:

The Art of Flight - www.getty.edu/art/sednet/resources/space/index.html
A Cross-Curricular Supplement

The Art of Flight

A cross-curricular supplement



Michele R. Horn

Fayetteville Museum of Art

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www.fayettevillemuseumart.org

Appendix C.1

