

Ranatra Fusca School Proposal

**A K-8 school designed around the principles of
Odyssey of the Mind, Maria Montessori and John Dewey**

Proposal by Jill Ferris

April 2005

Professor Kissane

American School

Ranatra Fusca School Mission Statement

“We believe that for every problem there are multiple solutions. We place as much value on the process taken to reach a solution as the solution itself. We believe it is not enough to simply learn, but rather we challenge our students to be creative and inventive in approaching all problems. We seek to offer our students a safe environment and a core of knowledge from which they can develop creative problem solving and teamwork skills.”

Introduction

The Ranatra Fusca School is private school offering Kindergarten through Eighth Grade. It is designed to accommodate 150 to 174 students, or approximately 18 students per grade level. The school itself will be divided into eleven classrooms, one stand-alone Kindergarten classroom and two multi-age classrooms at the following intervals: 1/2, 3/4, 5/6, 7/8.

Students are to be admitted according to an interview process in which potential students participate in a series of activities determined by the administration to identify creative individuals. Activities may include imaginative (pretend) play, arts and crafts and playful construction, as well as an informal interview with the child. “There are kids who come in and do everything the way it has been shown to them,” Lockport Family YMCA Youth Director Laurie Ferris said.

If you’ve got ten kids making coloring daffodils, nine out of ten will color them yellow. It’s that kid who colors each petal a different color because he thinks it looks prettier like that – that’s the kid that is creative. The creative children stand out” (L. Ferris, personal communication, April 20, 2005).

While it is possible that a creativity tests such as *Creativity Tests* for Children, the Creative Reasoning Test (CRT) or Creative Behavior Inventory might be administered, these resources are intended for children in at least Grade 1 and often Grade 3, not preschool students who will comprise the majority of Ranatra Fusca School's candidates (Cropley). In line with the philosophy of this institution, every attempt will be made at keeping this a need-blind school so that all qualified students may enroll as pupils.

This school could potentially be established anywhere, however it is preferable that it be located in at least a medium-sized city so that it may draw pupils from the surrounding areas. The school building itself should have the standards of classrooms, a gymnasium, library, etc. Additionally, a large auditorium should be included in the design, as well as several other spaces which may be turned into performance spaces. In the design of the school, attention should be paid to acoustics so that all performance spaces are adequately equipped for regular performances. A pod-design would accommodate the philosophy of the school, as would a convertible gymnasium/auditorium and convertible cafeteria/auditorium in addition to the standard auditorium, provided all spaces have sufficient acoustical quality.

Teacher recruitment will be a vital part of the success of the Ranatra Fusca School. The role of teachers at the school is unique. Teachers must serve as some combination of the traditional role of a teacher, providing the basic core knowledge to students, as well as that of facilitator and guide as students branch out on their own to perform small group work. It is therefore preferable that teachers are certified, however qualified candidates will be considered who do not have teacher certification, provided they have comparable experience, such as Montessori accreditation or previous work as a

coach in a program like Odyssey of the Mind. Additionally, it is beneficial for teachers to have either musical or artistic experience, or both, as part of the curriculum relates the arts to other, more standard academic areas. Regardless, all staff must be dedicated to the educational philosophy of the Ranatra Fusca School and the betterment of our students.

Background

The inspiration of the Ranatra Fusca School is the Odyssey of the Mind operated by Creative Competitions, Inc. Created from the Industrial Design classes of Dr. Samuel Micklus at Rowan University, the first competition was held with 28 teams in New Jersey (*Learn More!*) Since then, the program has grown to offer multiple levels of competition to thousands of student teams across the globe. The program encourages creative problem solving and teamwork as groups of five to seven students work to solve one of five problems published annually. These problems include specific criteria which the team must meet, whether it is building a vehicle to transport materials or adapting something “classical,” such as mythology or music, within a given context (Micklus 2004).

The name of the school is actually derived from an award given at all levels of Odyssey of the Mind competitions. Ranatra Fusca is the Latin term for “water spider”; the seemingly remote connection to the competition came from one of Micklus’ classes in which a student attempted to solve a water obstacle course navigation problem with a contraption designed after a water spider. The contraption was ultimately not successful, however Micklus recognized the extreme creativity of the student and immortalized the event with an award given at competition to teams who “exhibit exceptional creativity, either through some aspect of their problem solution, or an extraordinary idea beyond the problem solution” (Micklus, 2004, 34).

The Ranatra Fusca School is also derived, in part, from the ideas of Maria Montessori and her school system. According to Robin Ann Martin, Montessori education is intended for students to “work on their own—and with intense concentration—on tasks and activities that allow them to develop their potentials at different phases of their lives” (Martin 22-23). Students work in heterogeneous, multi-age classrooms with teachers specially trained in observation techniques. The role of the Montessori teacher is not to dictate to the students, but rather to serve as a guide; they are taught to “control the environment, not the child,” according to the International Montessori Society website (Harvis).

The ideas of John Dewey are also integrated into the Ranatra Fusca School. Dewey emphasized two main principles in his theory of Progressive education, that students learn best by partaking in relevant projects (learning geometry by making a garden) and that a theme of democratic-ness and community should flow through the school. In Dewey’s vision, most often manifested itself in the form of a “cooperative workplace, in which students work together on projects that have real meaning to them” (Martin, 23).

Other authors such as Robert Delisle and Lilian Katz and Sylvia Chard advocate a similar system, Dewey-based theories of education. Delisle proposed a system of Problem-Based Learning (PBL) in his book, offering a curriculum theory which developed as Dewey’s theory was applied to education at the medical school level. Delisle advocates teachers presenting students with a relevant problem which can then be investigated by the students. According to Delisle, “students who are taught through PBL become ‘self-directed learners’ with the desire to know and learn, the ability to formulate

their needs as learners, and the ability to select and use the best available resources to satisfy these needs” (Delisle, 3). Katz & Chard, meanwhile, wrote on using the Project Model adapted from Dewey, especially in the Early Childhood Classroom. They posit that such an approach, in which students pursue different aspects of a project in smaller groups, especially in projects that relate to the broader community, such as studying a school bus or a police station, that students are more interested, involved, and aware as community members (Katz & Chard, 1-20). Though their work deals mainly with children between the ages of three and eight, the same principles can be applied to children as they grow in their academic careers.

A final, important aspect of the background of the Ranatra Fusca School which is important to understand is the “collaborative school.” Stuart & Smith, in their book on the collaborative school, propose such as model for the interaction that occurs amongst faculty.

The argument for collaboration in schools is a straightforward one: If teachers and administrators view teaching as a collaborative endeavor, in which administrators work closely with teachers and teachers work closely with one another, then improved teaching and learning will result (Stuart & Smith, 9).

Thus a collaborative school in which teachers are encouraged to meet and pass on their expertise in teaching to their colleagues promotes the development of better teachers and a better community environment dedicated to the students.

Goals and Objectives

The goals and objectives of this school are as follows:

- To afford students an education that not only teaches them a core of knowledge, but which requires them to expound upon and develop that knowledge across disciplines.
- To allow students to develop creative thinking skills, as they meet the criteria set forth in the Interdisciplinary Units.
- To allow students to develop teamwork skills as they take part in group work.

As a result, graduates of the Ranatra Fusca School will have developed into students who are not only competent in traditional school disciplines such as Mathematics, Science, Social Studies, English, Art, Music, and Health, but who also who possess finely tuned creative problem solving and team work skills which are necessary in today's society.

Curriculum

The basis for the curriculum of the Ranatra Fusca School lies in the basic structure of the Odyssey of the Mind program. In Odyssey, students are given a set of criteria which they must fulfill in a creative manner. Additionally, they are provided with a very clear rubric that details how the presentation will be scored. *See Appendix A.* Similarly, the school will be geared around four-week Interdisciplinary Units. The entire school, for example, may be given a unit that focuses on mythology, but has added elements of art, mathematics and technology, as criteria for the project may include painting a representation of a myth, the inclusion of a mathematical concept in the solution, with an added challenge of making something “fly” in the performance. All of these elements are to be combined into a Solution Presentation which will then be presented for the school at the end of the unit.

The Interdisciplinary Units are to be devised by teams of school faculty, with each of the nine teachers being responsible for the creation of one Interdisciplinary Unit a year. The tenth unit of the year (forty weeks in a school year) will be created by the Principal of the school, thus offering cohesion amongst the grades. The collaborative efforts of the creation of these units will promote better teaching and staff communication, in addition to school-wide cohesion.

Each unit, as mentioned earlier, culminates in school-wide Performance Day. On the final day of the unit, students will present their solutions, restricted to ten minutes in length, for the school body, or a portion thereof. For time purposes, as 27 teams are to be presenting on any given Presentation Day, it would be most desirable to divide the school into two or ideally, three, performance areas. While a group is presenting, their peers will watch and teachers, students and family in the audience will then have the opportunity to ask questions of the students at the end; their mastery of the various disciplines can thus be evaluated. Students will be judged in their performances based on a clear school-wide criteria rubric by a panel of two or three teachers.

Arts and Music are also to be included in the Interdisciplinary Units, as are the traditional subjects such as Mathematics, Science, English, Social Studies, and Health. Unlike a Montessori School system, students will still have regular class time to learn age-appropriate concepts; addition and subtraction, for example, will still be taught in concept in a classroom setting, however after a morning of classes, students will be expected to practice and apply the concepts in their group work. No more than half the day will be spent in a traditional classroom setting, however, and as Presentation Day approaches, less and less time will be spent in the traditional classroom.

The Presentation Groups will be determined by the classroom teacher, provided the class is divided into three heterogeneous groups and that the students have the opportunity to work with all of their other classmates throughout the course of the year. Thus groups from unit to unit may have similar groupings of students, but by the end of the tenth unit every student shall have worked with each one of his classmates, unless this is an absolute impossibility.

Evaluation and Assessment

Students are to be assessed equally in two components. First of all, for each four-week unit, students will be observed and assessed by their classroom teacher on the basis of group work, research and creative processing. Testing in the sense of the traditional classroom will be left up to the prerogative of the classroom teacher; however the teacher's main evaluation will be qualitative, offering a written commentary on the student's progress.

Once every four weeks when the school gathers for Presentation Day, however, each group will be evaluated based on the clear rubric provided at the beginning of the unit. A panel of a minimum of two, but preferably three, teachers and/or administrators will evaluate the group's presentation. Students will have their evaluation rubric from the onset of the unit and will be judged accordingly. The rubric follow a point system, offering students the opportunity to score certain points based on the success of different elements. For example, note Table 1 which draws upon some of the sample criteria listed earlier in this proposal. Students of different grade levels, while they will be held responsible for the same criteria, such as "Integration of a Mathematical Formula, such standards will be applied according to grade level. Therefore students in Grades 1 and 2

might integrate addition, subtraction, or even rudimentary multiplication, while students in the traditional Middle School Grades will be expected to use more advanced mathematical concepts such as statistics, advanced work with fractions, or algebra.

Table 1.	
Inclusion of a “flying element”	0, 5, or 10 points
Element does not fly, is absent or missing.....	0 points
Element gives the illusion of flight.....	5 points
Element actually flies for min. 5 seconds.....	10 points
Integration of a Mathematical Concept.....	2-20 points
Formula included.....	0 or 5 points
Creativity of integration.....	1-15 points

Student achievement and learning will be evident at Presentation Day when, after the group presentation, the audience of fellow students, teachers and family members may ask students questions about their problem solution. As an “expert” in the information included in the presentation, students should be able to field most reasonable questions with a good deal of accuracy. Additionally, the audience may ask students about work they completed to arrive at their Presentation Solution.

Conclusion

The Ranatra Fusca School is quite unique in that it combines a hands-on, guided learning approach of John Dewey and the Montessori system with more traditional classroom settings. Additionally, the school is really meant to challenge students to pursue the material they learn in the classroom beyond simple memorization or

recognition. Instead students must be able to apply it in combination with information from other disciplines in a creative and collaborative solution. The presentation aspect of the school puts an emphasis on public performance and speaking, skills valued in society, while the collaborative nature of the project demands that students work together, fostering team work skills.

This school is based heavily on the Odyssey of the Mind program which has influenced so many students, teachers, administrators and parents. By applying the basic ideas and structures behind Odyssey to a school setting, this school will have the ability to reach students who might need an added challenge element in their academic career. While it cannot be expected that the school will not be the right environment for all students, it will be the right environment for many.

“I still try to think of creative solutions to all of my difficult problems,” University of Colorado graduate and petroleum engineer Brandon McNerlin wrote. “I am very confident speaking in front of an audience, a quality I attribute to Odyssey of the Mind. I mean, when I think that I have stood in front of a crowd wearing my caveman costume, a potato sack and leopard print boxers, it’s hard to be embarrassed about anything by comparison.” Similarly, the Ranatra Fusca School would afford its students similar educational experiences. Just as Brandon walked away from competing in Odyssey of the Mind with certain abilities such as public speaking and critical thinking skills, so too will graduates of Ranatra Fusca School be taught these useful practices.

Tom Mauro, vice president of United Banks Service Company gave a speech to the OM Association Program Advisory Meeting in the late 1980s, having himself been involved with Odyssey through coaching. In his speech, Mauro emphasized the support

which corporations were willing to give to Odyssey, based on it's educational benefits in the vein of problem solving, teamwork and communications and presentation skills, amongst a list of more than a handful such benefits. "Because of these concepts and skills that are learned in Odyssey of the Mind, corporations are willing to contribute to the ...success [of the program]" (Micklus, 1989, 9).

Quite simply, the success of the Odyssey of the Mind program, combined with aspects of the educational philosophies of Maria Montessori and John Dewey, are set to make this a successful school. The benefits wrought by the students of the Ranatra Fusca School are far beyond those of simply reading and writing. In addition to these crucial, yet standard schools, students will develop creative thinking, problem solving, teamwork, and public speaking skills. They will experience a balance of the traditional classroom setting and a more hands-on, research-oriented model of learning. Finally, through the use of the Interdisciplinary Unit structure, students will be challenged to integrate and synthesize the concepts they learn in the classroom across broader disciplines.

"What problems will today's second-graders face 20 or 60 years from now?" Dr. Samuel Micklus asked. "I don't know. No one knows because tomorrow's problems are inconceivable today. So we have to encourage creativity through divergent thinking and foster the discipline needed to pursue solutions" (Schwartz).

Bibliography

- Cropley, A. (2000, December). Defining and Measuring Creativity: Are Creativity Tests Worth Using? *Roeper Review*, 23, 72.
- Delisle, R. (1997). *How to Use Problem-Based Learning in the Classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Harvis, L. (2004). *International Montessori Society*. Retrieved April 30, 2005 from <http://mail.wdn.com/trust/ims/>
- Katz, L. G., & Chard, S. C. (2000) *Engaging Children's Minds: The Project Approach* 2nd ed. Stamford, CT: Ablex Publishing Corporation.
- Martin, R. A. (2004). Philosophically Based Alternatives in Education. *Encounter*, 17(1), 17-27.
- McNerlin, B. (2002). *Odyssey4Ever*. Retrieved April 30, 2005, from <http://www.scholarsearchassoc.com/previous%20articles/MyTurn/myturn080102.htm>
- Micklus, C. S. (1989). *Problems to Challenge Creativity: Odyssey of the Mind Long-Term and Spontaneous Problems*. Gloucester City, NJ: Creative Competitions, Inc.
- Micklus, C. S., & Micklus, C. (2004). *Odyssey of the Mind Program Guide 2004-2005*. Gloucester City, NJ: Creative Competitions, Inc.
- Odyssey of the Mind. (n.d.). *Learn More!* Retrieved April 28, 2005, from <http://www.odysseyofthemind.com>
- Schwartz, D. M., & Livzey, J. (1995). Everyone's a winner when it comes to sports for the brain. *Smithsonian*, 26(4), 8-21.
- Smith, S. C., & Scott, J. J. (1990). *The Collaborative School: A Work Environment for Effective Instruction*. Eugene, OR: ERIC Clearinghouse on Educational Management.