A CASE STUDY ON ATTITUDINAL CHANGES OF TEACHERS AT AN ENVIRONMENTAL CHARTER SCHOOL

By

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ABSTRACT

Since 1991 when the first charter school legislation was passed, charters have been opening across the country. In Wisconsin the first charter school began in 1993; at present, 138 charters exist. During the last ten years, significant research has been done involving students and accountability at charter school facilities. Further studies have been conducted looking at the environment and its role in education. In addition, recent research indicates that students learn more effectively when learning takes place within an environmentally based context. They perform better in reading, writing, math, science and social studies (Lieberman and Hoody, 1998).

Research also demonstrates that students and their learning changes through the charter school process, yet little is known about the changes that take place within the staff at these facilities, thereby creating the need for this study. This research focused on the teachers and administration at the Jackson Environmental Discovery Center (JEDC), an environmentally based charter school in Stevens Point, Wisconsin. Qualitative research methodology known as participant observation was used and data was collected from a variety of sources including meetings, discussions, surveys, interviews and evaluations throughout the year and half study period. This data was coded into five major study themes including the development of the teacher as a professional, the development of the curriculum, teacher empowerment and ownership, the importance of support and involvement from external sources and perceptual changes—barriers and concerns. This study has implications not only in charter school development but also to the field of environmental education, as it demonstrated what happened to school personnel (primarily teachers) as they underwent the change from a traditional public school to an environmentally focused charter facility.
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CHAPTER ONE: INTRODUCTION

Since Rachel Carson published *Silent Spring* in 1962, there has been a growing awareness of the environment and our role as humans within it. As we have begun to recognize the impacts of our actions upon the planet there has been an increase in support and understanding of the role of education in conservation. This role has been further articulated in events such as the first Earth Day in 1970 and the first intergovernmental conference on environmental education in Tbilisi, Georgia (Russia) in 1977 which defined environmental education and its five sub-goals. In addition, legislation such as the National Environmental Policy Act of 1969 and the National Environmental Education Act(s) of 1970 and 1990 have all sought to demonstrate our continued commitment to education as a mechanism for improving the quality of the environment.

As the field of environmental education (EE) has developed, it has taken place in locations ranging from nature centers, zoos, and other non-formal institutions to implementation in formal education within classrooms.

In the early 1990s a novel idea was introduced to the educational paradigm known as charter schools. These schools have sought to revolutionize the public school system and differ from traditional institutions in everything from their curriculum to their governance. They operate as the "research and development arm of public education", seeking to reach those students whose needs have not been met by the traditional school system. Recently these two ideas have had the opportunity for fusion with the creation of environmental charter schools. These schools have sought to implement environmental education into daily curricula with students, striving to achieve the ultimate goal in environmental education, the creation of a responsible, active and environmentally
literate citizenry.

Research has been conducted in both environmental education and charter schools, looking at the impact of these innovations upon students. Investigations have sought answers to the development of environmental literacy, while increased test scores have been the response to charter school accountability. Modest research has been done on teachers’ and administrators’ attitudes and beliefs towards EE and/or charter school facilities. In comparison, a great deal of research has been conducted looking at educational change and the role of key individuals such as the principal within a school setting. With the relative newness of environmental charter schools, few studies have been conducted to explore the implementation of this new idea on either population. Therefore this study is different, as it attempts to articulate and understand the relationship between change (in the form of an environmental charter school) and those that implement that change (the staff of these institutions) as they explore environmental education within their school setting.

Statement of problem:

The purpose of this inquiry is to conduct a case study of attitudes during the transition of becoming a charter school within the staff and administration at the Jackson Environmental Discovery Center (JEDC), an environmental charter school in Stevens Point, Wisconsin.

Population to be assessed:

This case study was conducted on the staff and administration of the Jackson
Environmental Discovery Center (JEDC) in Stevens Point, Wisconsin. The JEDC is one of ten elementary schools in the Stevens Point Area School District, the first district in the state of Wisconsin to establish a charter school in 1994. Built in 1969, the JEDC served as a traditional elementary school until 2001, when it applied for charter school status. This school was selected to be studied due to its application and acceptance to become an environmentally based charter school in Wisconsin by the Department of Public Instruction. The population studied consisted of twenty-seven elementary school teachers (K-6), thirteen special education teachers and fourteen educational assistants. Additionally, there was six support staff in the areas of secretary, food service and custodian. The teachers assessed have taught from two to thirty years, with an average of seventeen and a half years of experience as an elementary school teacher. Of those studied, only twenty-seven percent had any pre-service training in environmental education. In addition the principal of this school was also assessed, serving as principal of the JEDC for over ten years.

Subproblems:

1. Research the history and status of the charter school movement in the U.S. and Wisconsin.

2. Assist the JEDC steering committee in the development of a K-6 scope and sequence for curriculum with integration of environmental education themes and practices.

3. Aid in the identification and development of professional development opportunities for teachers at the JEDC in the predetermined areas of
environmental education, career education and technology.

4. Serve as a resource in the development of a whole school plan for environmental education; including JEDC curriculum, outdoor site and the school facility.

5. Document the attitudes towards change of JEDC administration and teachers as they undergo the transition from working at a traditional public school to an environmental charter facility.

Assumptions:

1. There will be teachers willing to participate in the development and implementation of the JEDC.

2. There will be teachers willing to participate in the study offering perspectives, concerns and comments regarding the transition.

3. There will be continued administrative support (at the school and district level) for the development and implementation of the JEDC.

4. Parents will choose to have their K-6 students attend the JEDC.

5. The documentation of this study will be useful to both the JEDC and other environmentally-based charter schools in Wisconsin.

Limitations of the study:

1. This project will be limited to the faculty/staff employed at JEDC.

2. This case study will be limited by a one and half year study period.

3. This project will not provide an evaluation of the success of the JEDC or JEDC students.
4. The researcher for this study will not be a passive observer, but use participant observation methodology.

**Definition of key terms:**

- **charter school** - a public, nonsectarian school created through a businesslike contract or "charter" between the operators and the sponsoring school board or other chartering authority (Wisconsin Department of Public Instruction, 10/1/02). Charter schools often are created to service a specific audience such as high risk students or to provide a specific curricular focus such as service learning or the environment.

- **curriculum** - all the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside or outside the school. (Informal Education Encyclopedia, 3/3/04).

- **environmental education** - a lifelong learning process that leads to an informed and involved citizenry having the creative problem solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions (Fortier, J.D., Grady, S.M., Lee, S.A. and Marinac, P.A., 1998, p. 11).

- **environmental education program** - a program designed to incorporate
environmental education into all aspects of a school’s program—including curriculum, the outdoor site and school facility.

- **inquiry**- an educational methodology that involves the student as the discoverer and initiator of the content and process learned.

- **Jackson Environmental Discovery Center (JEDC)**- a K-6 charter school with an environmental education focus in the Stevens Point Area School District, located in Stevens Point, Wisconsin.

- **outdoor site**- a natural setting where a variety of natural and man-made features provide an area where teachers can take educational activities outside (Texas Parks and Wildlife, 10/4/02).
CHAPTER TWO: REVIEW OF RELATED LITERATURE

Topics:

- Charter schools in the United States
- Charter schools in Wisconsin
- Charter school assessment and accountability
- Holistic environmental education, state standards and environmental school initiatives
- Environment as an Integrated Context for Learning (EIC)
- Wisconsin teachers’ perspectives towards environmental education
- Educational change
- Role of principal
- Role of teachers in educational change
- Change facilitators
- Summary

Charter Schools, an Introduction

The purpose of this study is to document the transition of Jackson Elementary School in Stevens Point, Wisconsin to a new charter school known as the Jackson Environmental Discovery Center (JEDC). In order to begin this discussion, one has to build a basic understanding of charter schools within the U.S. and their history. A charter school, by definition, is a public, nonsectarian school created through a businesslike contract or "charter" between the operators and the sponsoring school board or other chartering authority (Wisconsin Department of Public Instruction, 10/1/02). In general two types of charter school facilities exist, instrumentalities and non-instrumentalities. Instrumentality charters are those that are “instruments” of a school district. Their staff are district employees and hence part of a union, covered by union rights and benefits.
Schools in Wisconsin with this distinction, such as the JEDC, are also called quasi-charter or transitional charter schools. Non-instrumentalities are quite different with the facility itself not being a part of a school district and the staff not unionized or state employees (Dickman, Van Dunk, Witte, Schlonier and Weimer, 2003). They tend to be start-up or new school facilities altogether.

Charter schools in the United States

Charter schools have been in existence for twelve years with the first charter school established in St. Paul, Minnesota at the Center for School Change in 1992. Today this initial idea has grown nationwide and there are several hundred charter schools with more than half in just six states: Arizona, California, Florida, Michigan, Ohio and Texas (Feldman, 2002). These schools operate primarily as their own school districts, conducting their own hiring, budget management and curriculum design. Charters, like other public schools, are financed by state and local taxes but usually receive less funding per student than traditional public schools (Corporation for Educational Radio and Television (CERT), 2000). In addition, charters do not shift funds away from the public school system (a common myth surrounding charters) but they may shift funds from an existing public school (Dunn, 1994). For the flexibility they have a charter's consequence is greater accountability. As Secretary of Education Rod Paige clearly stated in 2002, “No improvement, no charters, no excuses” (Paige, 2002). Charter schools must explicitly state measurable student performance objectives. These objectives usually meet at a minimum, existing state standards, but often go well beyond
(Dunn, 1994). Later portions of this review discuss charter school accountability and assessment.

With a few notable exceptions, a charter to develop a school is generally given by a state agency. Due to this there is significant variation among state requirements. For example, in Rhode Island, unions are heavily involved in the charter process. When a charter application is submitted, a copy must also be given to the district union. If the union objects to the charter, the school committee, commissioner and Board of Regents must consider and respond before making a recommendation or final decision. Also, when transferring to a charter school, teachers are permitted to remain members of the school union they were previously part of. In Minnesota, local districts grant charters to licensed teachers who must comprise a majority of the school’s governing body. Charters receive regular state per student funds and any federal funds for which students are eligible. In 1995, public colleges and universities in Minnesota were also allowed to apply for charters. That year the state also allocated up to $50,000/school to be awarded to evaluate the effectiveness of granted charters. Finally in California, the state with more charter schools than any other, charters are granted by local districts and can be organized by any individual or group. The charter can be a new school or a conversion from an existing school and the State Superintendent calculates the amount to which a charter is entitled (Dunn, 1995). As one founder of a charter school in New Jersey states, "Charter schools are the research and development arm of public education" (CERT, 2000).

Although fifty-nine charter schools closed during their first eight years of operation, today there is continued interest in charters (CERT, 2000). In 2002, more than
half a million students attended twenty-four hundred charter schools nationwide. Nearly two thirds of those charters had waiting lists. In a nation where nearly sixty-six percent of fourth graders can’t read proficiently and seventy percent of inner city and rural fourth graders can’t read at a basic level, there is clearly a need for a new educational paradigm (Paige, 2002). Even within the federal government charters are endorsed. Under the No Child Left Behind Act of 2001, $200 million was given to fund charters. In addition, in 2003, both the Republican and Democratic National Party called for increasing the number of charter schools across the country (Dickman, et al., 2003). Parents are another audience who are interested in charters. They are looking for schools that recognize, as James Verilli a charter school teacher in New Jersey states, “Not all kids are the same and not all kids need the exact same school”. Charters find a way to meet the specific needs of today’s children in a myriad of ways.

Charter schools in Wisconsin

In 1993 Wisconsin joined the ranks of states that adopted charter school legislation. Originally, charters were given to only ten districts with a limit of two schools per district (Dunn, 1994). Since then, the legislation for charters has been revised five times, with the most recent alteration in 2004. In Wisconsin the charter school program is operated by the Department of Public Instruction (DPI) as part of the Elementary Secondary Education Act of 1965, and as amended by the No Child Left Behind Act of 2001 (Wisconsin Department of Public Instruction, 2002-3). A charter can be applied for by a school in two ways. First the school board can apply and once approved, contract with any individual or group to operate the school. The second option
is a written petition filed with the school board. This petition must be signed by at least
10 percent of the teachers in the district or fifty percent of teachers within the applying
school (Dunn, 1994). In 1997 with a change to the Wisconsin Charter School Law,
chartering authority was also given to the University of Wisconsin-Milwaukee,
Milwaukee Area Technical College and Common Council of the City of Milwaukee
(Wisconsin Department of Public Instruction, 2002-3). In addition, University of
Wisconsin-Parkside also has been given the ability to charter one school/year. Finally in
early 2004, state legislation is on the books which would expand this chartering authority
to ten UW system facilities (Brown, 2003). This law, Senate Bill 253, would expand
Wisconsin's charter schools authorization process to allow 5 UW System 4-year
universities to sponsor charter schools (WCSA, 2004).

As expected there are certain state requirements for charters in Wisconsin. By
law, charters must be tuition free, non-discriminatory and attendance must be voluntary.
Charter facilities must meet state health and safety requirements and count their students
as district enrolled students. Charter schools must also address some of the state
education goals and must develop student assessment systems to measure student
progress in obtaining those goals. If the goals are not met, the charter will be revoked.
For the most part, charters within Wisconsin are exempt from all state and local
regulations other than those previously stated, except requirements in teacher certification
and accountability. In order to teach at a charter school, teachers must either have a
traditional teaching certification or individuals may apply for a charter school teaching
license from the Department of Public Instruction. These non-certified individuals must
have a Bachelors degree in the subject area in which they will teach and must be
supervised by a fully licensed teacher. Teachers also must remain employees of the district (Wisconsin DPI, 2001).

In addition the charter must operate under a contract negotiated with the chartering authority (usually the district) and must specify the amount to be paid to the charter school during each year of the charter's existence, limited to a five year period (Wisconsin Charter School Law, 2001). Finally, evaluation of the charter school lies with the district school board or other chartering authority. As it is in other states, the motto for charters in Wisconsin is, "autonomy for accountability" (Wisconsin DPI, 2001).

As of March 2004, one hundred and thirty four charter schools existed in Wisconsin. Although the range of charter school facilities is broad, close to half of the schools are targeted towards at-risk youth. Of the four hundred and twenty-six school districts within the state, sixty-seven have charter schools with approximately two percent of all students in Wisconsin attending charter facilities (Dickman, et al., 2003). In terms of location, 25% of all charters exist in Milwaukee. Other districts with substantial numbers of charter schools include Appleton, Stevens Point, La Crosse and Eau Claire. In each of these districts there is "no doubt that charter schools are the major vehicle for providing non-traditional approaches to education and creating at-risk alternative schools (Dickman, 2003, p. 9)".

Of all charter schools in Wisconsin, only six have an environmental focus or strand to their curriculum. These include the School on the Lake (Menasha), Education for a Sustainable Development (Stevens Point), Jackson Environmental Discovery Center (Stevens Point), River Crossing Junior High School (Portage), Spruce School: A Rural
Community Alternative (Lena), and the Wisconsin Rivers Community (Stevens Point). Although geared towards different K-12 audiences, most have a similar philosophy. For example, the School on the Lake located in Menasha, Wisconsin states that all school activities have an environmental focus based on Lake Winnebago and the ecosystem of the Fox River Valley. All core subjects are taught through an integrated approach and a strong emphasis is placed on basic skills, which allow the students to meet and exceed Wisconsin state standards (Wisconsin DPI, 2001). Another example is River Crossing Junior High School in Portage, Wisconsin. This school of approximately fifteen, high risk seventh and eighth graders works as a partner with the Wisconsin Waterfowl Association (WWA) to initiate and complete several restoration projects. According to their lead teacher, Victoria Dahlby, “Everything is tied together, and the kids learn responsibility along with their lessons. On one trip, we restored a wetland with the WWA and tied in history, math and science (Durbin, 2003).

Charter school assessment and accountability

Since its inception, the subject of accountability has been an issue for charter schools. Unlike traditional public schools, if a charter school does not perform it risks having its charter revoked and being closed down. This fear of being revoked has turned discussion of charter school accountability to “focus obsessively on the narrow question of whether a charter will be renewed or not” rather than on the various accountability issues (Finn, Manno and Vanourek, 2000). This section of the literature review discusses these issues as well as a comparison of accountability measures within various states.
In a 2001 study conducted by the U.S. Department of Education, “A Study of Charter School Accountability”, three separate issues exist with accountability and charter schools (Hill, Lake, Celio, Campbell, Herdman and Bulkely, 2001). The first issue is performance versus compliance. Unlike conventional public schools, charters are exempt from many rules set up by local and state school boards and unions. Instead, charters are required to demonstrate student learning. This raises the question of whether or not performance can replace compliance as a mechanism of accountability. According to study results, charters struggle with this issue from two sources: the chartering authority and other government agencies. Many chartering authorities such as state agencies have traditionally dealt with schools on the basis of compliance. Now, without these traditional measures, chartering organizations struggle to provide a standard to measure charters against (Hill, et al., 2001). Also government agencies other than charter school authorities are unaccustomed to working directly with individual public schools. As a result, when dealing “by the book”, charters are often judged more severely than conventional schools (Hill, et al., 2001). The study also stated that government agencies often assess charters on the basis of political popularity.

The second issue, known as external accountability, is that charters can be forced to close if teachers, parents or even donors reject them. This raises the question of whether or not a dependence on parents and teachers forces (or enables) charters to ignore their responsibilities to the public. According to study results, charters end up creating an internal system of accountability to deal with this issue. This accountability is a belief that the school’s performance depends on all adults (e.g., teachers, parents) working in concert, leading to shared expectation about how the school will operate, what
it will provide and who is responsible for what. These schools operate on an accountability system that starts from within the school, not one that is imposed externally. The study also determined that a charter's dependency on donors, lenders and other sources of external funding seems to strengthen the school's academic performance (Hill, et al., 2001).

The third accountability issue addressed by Hill, et al. is the requirement of charters to satisfy multiple constituencies at once with limited resources. "Charter schools are directly accountable to many different parties and must balance the needs of all their constituents without losing the support of any (p. 7)". The study questioned if schools were able to balance their various audience needs while still providing effective teaching and learning to their students. The study determined that although most charters undergo a period of confusion when they initially open, they learn that the best way to maintain the confidence of their various audiences is by focusing on quality instruction (Hill, et al., 2001, p. viii).

Within the states, charters are dealing with accountability in a number of ways. For example, in Arizona (termed the "Wild West of educational reform"), accountability is based on a marketplace approach (Finn, et al., 2000). Charters are granted for fifteen years at a time and there is no limit to the number of charters established statewide. Arizona allows the principles of competition within a market to allow the best charters to succeed, and the weakest to be revoked. As Lisa Graham Keegan, State Superintendent of Public Instruction, states "Let schools teach us what is possible, rather than requiring of them what we believe would be best" (Finn, et al., 2000, p. 130). Arizona also uses a strenuous application process to monitor the credentials of the applicant. On the other
end of the spectrum in Massachusetts, accountability stems from a centralized, state-run approach. Each school must develop an accountability contract that describes a school’s objectives as well as the measure it will use to document progress toward those objectives, including credible student assessment tools. Charters must also publish an annual report and obtain an independent financial audit. Finally, charter schools are subject to an annual daylong site visit conducted by a group of Massachusetts citizens not involved with the school (Finn, et al., 2000). In the words of Scott Hamilton, former Massachusetts Associate Commissioner for Charter Schools, “This enterprise is about creating better, not just more schools. We have been very choosy...knowing it is easier to prevent a bad school from being chartered than to close one down once it opens” (p. 131).

States also use various types of assessment methods to report student achievement. Standardized tests are used by eighty-six percent of charters, state tests by seventy-five percent. Schools also use non-traditional formats such as student portfolios and other performance assessments to augment test scores (Finn, et al., 2000).

Clearly charters have accountability as a distinguising feature given these issues and variety of assessment methods and attitudes. According to Finn, et al., when a charter doesn’t work, it has a built-in, override mechanism that allows concerned public officials to terminate a school that is failing students by not renewing its charter. “The charter school system buries its dead, while the regular public school system tends to keep them on life support long after all brain function has ceased” (p. 137). In an educational system where forty-nine states have committed themselves to standards-based education as a basis of accountability, charters are different.
Holistic environmental education, state standards and environmental school initiatives

The need to develop educational programs that facilitate student citizens to acquire an environmental ethic has long been an overarching goal of environmental education. This ethic would develop adult citizens who are knowledgeable in environmental issues and would respond with citizen action. According to A Guide to Curriculum Planning in Environmental Education, the goal of environmental education is to help students become environmentally aware, knowledgeable, skilled, dedicated citizens who are committed to work, individually and collectively, to defend, improve and sustain the quality of the environment on behalf of present and future generations of all living things (Engelson and Yockers, 1994, p.14).

Despite this aspiration, most environmental education programs nationwide have not gone beyond building awareness and knowledge within the citizenry. According to research sited by Garmulewicz (1996a) on holistic environmental education, "The environmental programs that have been awareness oriented are often... lacking an integrative objective. Environmental educators ... all agree that subject-knowledge is necessary but not sufficient to promote action behavior. The emphasis is on the child participating, inquiring, and discovering the environment so that she/he might move from awareness to action (1996a, p. 10)". Differing from holistic education which focuses on the melding of mind, body, spirit and sometimes includes the addition of social consciousness, holistic environmental education seeks to develop an environmentally literate and concerned citizenry throughout the K-12 curriculum. According to
Garmulewicz, “During the 60’s and 70’s, environmental education had been introduced primarily in the subjects of science or social studies, often as an isolated unit or week-long experience at an outdoor center. Such disjointed environmental curricula have fostered a one-sided approach to environmental issues (1986b, p. 1)”. A possible way to create concerned adult citizens and integrate environmental education into the school curriculum over longer periods of time would be through a holistic curriculum.

Garmulewicz (1986a) suggests three methods of holistic environmental education. First is outdoor/inquiry learning, which occurs at the most advantageous location for the lesson. For example it may include a visit to a schoolyard, pond or urban area. The primary emphasis of this technique is student involvement and hands-on learning. The second technique is the use of simulations. Simulations typically deal with hypothetical situations; therefore they provide “safe” arenas to explore action behavior and repercussions of said actions. The third and final technique is the use of case studies. Here students can choose a local issue and through investigations, critical thinking and action behavior, make a difference within their community.

The need for environmental programming has also been recognized by parents, especially in countries such as Germany where programs such as “forest kindergartens” exist. According to a recent article in the *Christian Science Monitor*, “In an age when concerns about obesity, poor concentration and aggressive behavior run high, many German parents are eschewing computer screens and plastic toys in favor of the outdoors. Parents feel instinctively that their children need…more than a perfect playroom. They need to develop outside the artificially created environment of doll houses and drawing tables (Pommereau, 2003)”. Over three hundred “forest kindergartens” exist in Germany
with the first starting in 1993. Parental support also exists in the United States as demonstrated by the Ninth Annual National Report Card in 2001. This report, conducted by the National Environmental Education and Training Foundation (NEETF), found that ninety-five percent of all Americans endorse environmental education in schools (NEETF, 2003).

Not only would embracing a holistic environmental education program garner parental support and achieve the goals of environmental education, but also it would accomplish several state curriculum standards. Standards today are not just content based, but focus on process skills such as problem solving and critical thinking. Most environmental problems involve several issues where students must evaluate opinions; environmental education teaches critical thinking. Additionally, implicit in understanding society’s interaction with the biosphere is the consideration of social problems related to the environment. Such topics provide opportunities to incorporate value discussions, problem solving and action behavior into the curriculum (Garmulewicz, 1986a). In Wisconsin, model academic standards in Environmental Education have existed since 1998. These standards seek to be an umbrella which demonstrates the integration of traditional discipline standards in Math, Social Studies, English and Science to create curricula that will produce environmentally literate citizens (Fortier, Grady, Lee and Marinac, 1998).

Nationwide some schools seek to do more than accomplish mere standards and deem themselves environmental or green schools. One such school is the Conserve School in Land O’ Lakes, Wisconsin. This facility is a private, boarding high school which began in 1996 with an endowment. Conserve School students use a combination
of math, science, technology tools and communication skills to solve real ecological problems in their community. As their view book states, "The program prepares all graduates to be ethical and environmentally sensitive leaders and stewards..." (Conserve School, 2002). Furthermore, some schools are going green by participating in "green school" initiatives. These schools undergo an application process and evaluation of their site in areas that range from curriculum to building maintenance to become a green school. One such program in Wisconsin is conducted by the Wisconsin Department of Natural Resources (WDNR). According the WDNR website, "Wisconsin’s Green School program promotes, encourages, and recognizes school’s efforts to be environmentally sustainable models in their communities (WDNR, 3/14/03)". Under the Wisconsin Green Schools initiative, schools conduct environmental surveys on site and can achieve different levels of recognition from the state. The WDNR assists schools with resources in curriculum integration, community involvement the implementation of specific environmental criteria. Programs like these are beginning to gain momentum nationwide.

Environment as an Integrated Context for Learning (EIC)

Due to a small number of environmental schools and states with EE standards, little research exists on the benefits and outcomes of environmentally based curricula. However, a study conducted in the 1990s by the State Education and Environment Roundtable (SEER) has sought this outcome and received much attention. This study, known as Environment as an Integrated Context or EIC, was performed as SEER became more interested in the potential of environment-based education programs to improve learning, change longstanding pedagogical paradigms, and influence the way young
people learn to live successfully in the world that surrounds them (Lieberman and Hoody, 1998a). To accomplish this, SEER gathered data from forty schools from across the nation and compiled data on the schools in four major areas:

- Description of their common features
- Identification of the “best practices” that characterize their pedagogies
- Examination of the factors that led to their success or challenged them
- Compilation of data on the effect on students, learning, teachers and instruction

The outcome of this study demonstrated that these schools were effective because they broke down traditional boundaries between disciplines, provided hands-on learning often using problem solving and project based activities, relied on team teaching, adapted to individual students and their unique skills and abilities, and developed knowledge, understanding and appreciation for the environment—including the community and natural surroundings (p. 1). Aside from the attributes, what was the most remarkable about EIC schools and pertinent to the JEDC were the significant benefits of using an environment-based program on students. Some of these included better performance on standardized tests in reading, math, writing, social studies, and science; reduced discipline and classroom management problems; increased engagement and enthusiasm for learning, and greater pride and ownership in accomplishments.

In addition, the positive effects of using the environment as the context for learning reached beyond students to include their teachers. In the EIC study, “Teachers and administrators at all forty study schools described consistent and significant growth in their own levels of enthusiasm and commitment to teaching. They reported that teaching in the context of the environment, in interdisciplinary teams, made them more enthusiastic about their work than they had ever been before (Liebermann and Hoody,
1998b, p. 71-72). Educators also reported that as a result of using the environment as an integrating context, they experienced improved interactions with students and colleagues, expanded opportunities for professional development and personal growth, greater willingness to use innovative instructional strategies and growing administration support. One factor attributed to teachers’ enthusiasm for EIC is that they could link school to the real world. Said one teacher, “This program has enabled us to take science, technology, and communication skills—everything that we try to get across in a high school class setting—and convince students that there is a correlation between what we ask them to do in school and what the real world is like. It has added credibility to what we ask students to do (1998b, p. 73).

This study brings the relevance of using the environment as an integrating context to teachers, administrators and students. It seems to present strong evidence of student and staff success using this educational paradigm. Yet despite this, few schools embrace the environment as their primary curriculum strand and often, many teachers are hesitant and concerned about using EE.

Wisconsin teachers’ perspectives towards environmental education

In order for environmental education to succeed it must occur in the classroom and be part of the curricula. Despite academic standards in environmental education in Wisconsin, the primary individual making this a reality is the teacher. So to begin it might be interesting to access teachers’ attitudes and perspectives. How do they feel about environmental education (EE)? What excites them about this methodology? What do they perceive is important? What is motivating or prohibiting them from
implementing EE into their curriculum? In the mid-1990s, the Wisconsin Center for Environmental Education conducted such a survey to assess environmental education in the state. This instrument measured the attitudes of administrators and teachers and the knowledge of students concerning environmental education.

The outcomes from this study provided intriguing results, especially in terms of teacher perceptions. Of the teachers presently infusing environmental education, over eighty percent agreed or strongly agreed that EE should be a priority in the schools. In fact, sixty-eight percent of these same teachers felt it was a “good idea” to mandate EE curriculum plans...and sixty-four percent felt that pre-service teachers should have course work in EE. Further evidence of the perceived importance of environmental education is that ninety-one percent said that the EE mandate is not the reason they are infusing environmental education. Unlike many other states, Wisconsin has a state mandate that all districts were to develop an environmental education curriculum plan by 1990. However, in this same study, only one third of all teachers surveyed reported their district had such a plan, over half were not sure and eighteen percent felt sure that their school did not have such a plan (Champeau, Peri, Lane, Quale, Rossow-Cunningham, Sivek and Yockers, 1997, p. 14-15).

This study also sought to determine the incentives or barriers that impacted the implementation of environmental education by Wisconsin teachers. Teachers, who were not infusing EE, reported the primary reason was that they perceived EE as being unrelated to their subject area. In addition, many felt they lacked a background in environmental education. When these same teachers were asked what would influence them to teach about the environment, teachers identified in-service training and access to
resources as key components they would need (Champeau, et al., 1997, p. 18-19).

Teachers, who were infusing EE, also reported certain variables which they attributed to their competence in environmental education. These included preparation in EE during pre-service education, participation in in-service training, the presence of a district wide EE plan, and the frequent reference to this plan (Lane, 1993, p. 202-203).

Overall, this study concluded that the competencies needed by effective environmental educators seemed to overwhelm teachers. To alleviate this, it was suggested that teachers must receive support and education to provide them with the skills and competencies they will need to infuse EE concepts into their classroom (Lane, 1993, p. 7). This finding is extremely relevant to this study and the professional development of teachers at the JEDC.

Educational change

Since their inception in the United States, many changes have been proposed and introduced into public schools. History demonstrates that many of these paradigms repeat themselves and that our educational system is constantly under scrutiny. Schools and teachers are being asked to do more, to achieve more and to compete internationally. From outcome based education to standards, inquiry methodology and charter schools, there is no doubt that innovations are being introduced into our educational system.

Countless studies have been conducted, examining this change process and responses of personnel within schools. Researchers have tried to identify the myths regarding school change, why it is resisted, models for successful innovation, and the role of key personnel in this process.
To begin, we know that schools are different because the measure of success is frequently derived from the performance of students, yet students are often not the ones who initiate the change (Hall and Hord, 1987). In addition, change within educational facilities is traditionally viewed as a one-time event that should show virtually immediate and clearly visible results (Etheridge, Horgan, Valesky, Hall and Terrell, 1994). This is often not true, as change can be and is a long process. Several myths, identified by Glatthorn (1992), exist regarding change in schools. For example, the bigger the change, the better. This often is counterproductive as personnel feel overwhelmed by too much. Another myth suggests that teacher attitudes should change before you implement an innovation within a facility. Glatthorn argues in response to this that changes in attitude follow changes in behavior. Teachers need to see and experience what works before they support it. A final myth suggests that change should always be democratic, using a process that starts at the bottom and works its way up. However, when undergoing transformation, a strong leader with a clear vision is often needed. Teachers and staff of schools need to feel that their leader (usually the principal) has a plan, a road map of where they’re going. This direction will often ease the change process and the resistance to it (p. 195-197).

When discussing change, it is of little surprise that often innovation is resisted. People resist change for several reasons, but common reasons include fear of the unknown, fear of unmet needs, fear of new learning, fear of losing control or autonomy and fear of vested interests. In addition, concerns exist as individuals tend to be comfortable with the status quo and uncertain about their role in the change process (Etheridge, et al., 1994, p. 138-139). A theory, known as the Concerns Based Approach
Model (CBAM) suggests that concerns change over time in a fairly predictable, developmental manner (Hall and Hord, 1987, p. 70). Hall and Hord also point out earlier in their text that one reason change processes are not successful and that many actions meant to support change are rejected, is that interventions are not made at appropriate times, places, or in ways perceived as relevant (p. 8). Therefore, successful change is something that must be planned.

Various models exist on how change must be planned for and the different stages that exist throughout the change process. One such model is suggested by Allan Glatthorn (1992) in his book, Teachers as Agents of Change: A new look at school improvement. Glatthorn offers four stages for successful educational change: preliminary planning, initiation, implementation and continuation. In the first step of preliminary planning, a comprehensive vision of long term change and a flexible schedule for specific innovations are created. In the initiation stage, the decision to adopt a specific change is made and acted upon. The next stage, implementation, usually occurs for the first two to three years and involves the initial attempts to put the innovation into practice. Finally the last stage, continuation is carried out as the innovation is fully incorporated into the system. Glatthorn concludes this discussion by stating that altogether, these stages require between five and ten years to culminate (p. 195); change in an educational paradigm clearly does not happen overnight. Another author points out that in order to plan for change, we need to be clear about the basic direction of schools by setting the overall tone. This tone is set by educational leaders within the school facility. “Leaders can do this by providing the kind of purposing that

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invites teachers, parents and students to help forge a compact that includes shared goals, values and standards in the form of operating principles (Sergiovanni, 1996, p. 162)".

Sergiovanni brings to light the importance of leadership within a school that is undergoing change. Other authors also discuss this including Etheridge, et al. (1994), “It is difficult for the lowest level participants in bureaucracies to initiate change. Powerful insiders often must be the catalysts for and the overseers of the change (p. 15)”. Etheridge, et al. goes further to state that two types of motivation occur with change, induced and owned. Induced motivation results from suggesting change with dire consequences if the change is not embraced; for example, a principal could state to a staff member that they either accept the innovation or they will be fired. This type of motivation often leads to conforming behavior, but this behavior rarely becomes incorporated into the school culture (p. 137). Owned motivation, however comes from participants themselves. They change because they understand the need for change and believe it will work (p. 137). Finally in terms of the importance of facilitation, Etheridge, et al. state, “We observed that teachers commonly looked to principals as facilitators and that the principal’s facilitating skill was a chief determinant of whether and how teachers achieved participation in school level decisions (p. 49)”. Plainly the role of the principal is an important one, and one that is discussed in the next section of this review.

Role of principal

In order to understand the vital role of the principal, one has to begin by determining who they are, where they came from and the different types of leadership styles they possess. Traditionally, the principal has been viewed by both educators
within the school and fellow administrators, as having the major responsibility of supervising and evaluating teachers and maintaining the smooth operation of the school. Principals often come from the ranks of school faculty and are recruited from teachers who demonstrate a quality of orderliness. In addition, because they are rewarded for maintaining the system, administrators are often unlikely to challenge it or reward subordinates who do (Jwaideh, 1984, p. 9).

In a study conducted in Memphis on leadership and schools, three leadership styles were identified among principals: authoritarian, laissez-faire, and democratic. Authoritarian principals believe in centralized authority and are task oriented. They manage in three ways: by “reward power” which uses positive incentives to influence decision, coercive power which uses punishment and legitimate power which uses power of their position to administer the school. Laissez-faire principals tend to be passive and deliberately relinquish their control. They manage by assuming that others will lead and rarely do little to implement decisions. Finally the last style of leadership identified is the democratic principal. These individuals have a strong voice for their position but they manage by facilitating a shared decision making process; therefore empowering their staff to act (Etheridge, et al., 1994, p. 80-81).

Certainly the role of the principal is important at any school, for the principal is also the inferred leader. As one author states, “At the root of the principal’s role responsibility we find the roots of school leadership—a commitment to administer to the needs of the school as an institution by serving its purposes, by serving those who struggle to embody these purposes, and by acting as a guardian to protect the institutional integrity of the school (Sergiovanni, 1996, p. 88). As guardian and head of the school,
the principal is important in many ways, as a visionary, facilitator of change and as catalyst for the professional development of his/her staff.

Furthermore, the principal is usually looked upon for setting the vision. As previously mentioned, in order for change to be successful, it is often planned and has an end goal. "Effective principals establish clear goals and priorities, achieve a balance between task considerations and interpersonal relationships, serve as role models for school norms, communicate high expectations to teachers, provide support and direction for change and gain the support of the community and higher administration (Jwaideh, 1984, p. 10). Although it is true that parents, teachers and students also have vision, they usually are implicitly held. It is up to the principal to get the vision conversation started and to keep it going (Sergiovanni, 1996, p. 84). Literature suggests that the principal is the impetus for setting the vision and beginning any discussion or innovation.

Not only is the principal expected to be the visionary of a school facility, but also to play a crucial role in school improvement. According to one source, "Throughout our years of research and experience, we have never seen a situation in which the principal was not a significant factor in the efforts of our schools to improve (Hall and Hord, 1987, p. 1)". In order for schools to improve, usually an innovation is introduced. Hall and Hord (1987) go further to discuss the importance of a principal’s endorsement by stating "The more supportive the principal was perceived to be, the higher was the percentage of project goals achieved, the greater the improvement in student performance and the more extensive the continuation of project methods and materials (p. 40)". These authors also suggest that the role of the principal is not just to advocate the change but to facilitate it. They suggest that to be effective facilitators, principals must understand the dynamics of
the change process as it occurs within schools (p. 3). The principal is the “critical person making change happen (p. 45)”.

The final role a principal has at a school facility is the ability to promote teacher development. When undergoing change at a school, teachers are equally important as the principal for bringing about innovation. In addition, the change agent introduced often occurs at the classroom level, so teachers need to be supported and trained. Principals can influence three dimensions of teacher development: the development of professional expertise, psychological development and career cycle development. As teachers develop professional expertise, they gain skills which range from basic survival in classroom management to participation in school-wide decision making. The principal is key in determining areas that teachers can gain training and experience in.

Psychologically, teachers undergo significant change as they grow from teachers who have teacher directed, controlled classrooms to becoming more self aware and having an appreciation for multiple possibilities and teaching strategies. Finally, the principal can affect teachers as they go through their career cycle from first beginning to preparing for retirement (Joyce, 1990, p. 72-79).

**Role of teachers in educational change**

If most innovation within a school occurs at the classroom level (as previously suggested), then the role of the teacher in implementing change is vital to a school’s success. “The teacher’s role is central to improving the quality of learning for students. Teacher development is key because the quality of teachers’ understandings influence to a large degree what teachers do in classrooms (Sergiovanni, 1996, p. 140-141).” Despite
this, often teachers and their opinions are not valued, "Very little power has been centered in schools. Teachers have been treated as 'paid help' who have no voice in formulating policy and no control over how services are different (Etheridge, et al., 1994, p. 27)". In planning for change, looking at teachers and their influences, motivations and concerns regarding change would be valuable and integral to successful innovation; literature has much to say about this audience.

First, in terms of influence, it appears that teachers are less influenced by management strategies and more influenced by what they believe, by what their peers believe and do and by other and more elusive cultural matters (Sergiovanni, 1996, p. 159-160). School culture is defined as a system of shared meanings, assumptions and underlying values which influence teacher behavior. Combined with school climate, this shared understanding produces norms, the standards to which people conform (Glatthorn, 1992). Therefore a culture which accepts the introduction of change and innovation must be created for achievement. "The more democratic the school climate and the more self-actualizing the members of the teaching staff, the more positive will be their effect on the process of using the innovation (Joyce, 1990, p. 58)."

Additionally, research has been conducted on empowered teachers, seeking to determine what brings about this motivation. According to Etheridge, et al. (1994), empowered teachers have several similar characteristics. First, they knew what they want and relentlessly took action towards that end. Secondly, they sought training and information that enabled them to be productive. Thirdly, they also documented their practices in their school so they had data which supported their success. Finally, they advocated on their own behalf and a teacher usually emerged as a leader who enabled
cooperative work (p. 53). Identifying what characteristics bring about empowerment is important, especially for administrators and other management personnel.

A final element concerning teachers and change is analyzing and predicting their concerns. Studies reveal that there are patterns to teachers' problems and satisfactions. As previously mentioned the Concerns Based Approach Model (CBAM), developed by Hall and Hord (1987), suggests that teachers undergo seven stages of concern as an innovation is implemented. In the first stage, known as "awareness", an individual has little concern. They believe that the innovation will not affect them and therefore they have little apprehension about it. In the second stage, known as the "informational" stage, there is a general awareness and interest in knowing more about the innovation, but still little anxiety for it. The "personal" stage is the third stage identified. In this stage, the individual is starting to understand the innovation's relevance to their lives, yet they are uncertain about the demand of the change, his/her inadequacy to meet those demands and his/her role within the change. In the fourth stage, "management", the individual's attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Interestingly, in the fifth stage, focus leaves the teacher and shifts to the student. In the "consequence" stage, stage five, attention focuses on the impact of the innovation on students and an evaluation of their outcomes including performance and competencies. In the sixth stage, "collaboration", teachers are coordinating and cooperating with other staff members regarding the use of change. Finally, in the seventh stage, "refocusing", teachers explore more benefits of the innovation and may even suggest alternatives (p. 60).
Few axioms are more fundamental than the one that acknowledges the link between what happens to teachers and what happens to students (Sergiovanni, 1996, p. 139). By understanding the school climate and teachers’ motivations and concerns, change and innovation can occur in a natural, predictable way; one that insures comfort for the staff undergoing change and for the students experiencing it. Teachers are integral to the innovation process.

**Change Facilitators**

A final factor which seems to be important in educational change is the role of an outside facilitator. As Hall and Hord (1987) state in their study, “One result of our research has been the identification of a key second facilitator, who plays a very significant and complementary role to the principals (p. 6)”. Like the principal, this individual seeks to be constantly probing, adapting, intervening, monitoring and listening to the system. In the case of the Jackson Environmental Discovery Center, this outside facilitator was the University of Wisconsin-Stevens Point.

With the advent of the No Child Left Behind Act, all classroom teachers in the United States need to be highly qualified. This legislation has pushed professional development schools, a fast-growing form of university-school collaboration to the educational forefront. According to a May 2003 article in *Education Update*, “The best school-university partnerships are two way streets—they offer not only deeper practical training for new teachers but also ongoing professional development for seasoned classroom educators (ASCD, 2003, p. 1)”. These collaborations are occurring across the country and are providing opportunities and benefits for K-16 educators. It allows
opportunities for classroom teachers to gain guidance on best practices and new educational paradigms where university professors gain access to authentic K-12 settings. Although these relationships are fairly recent, the largest benefit seems to be that certain schools with these collaborations are demonstrating higher retention rates for teachers, better practices and improved student achievement.

Summary

Given current literature, it is clear that charter schools are a relatively new educational innovation in the United States and Wisconsin. These school models, with less than fifteen years of experience, are faced with several challenges including accountability and student assessment. Although literature sites studies such as EIC and the importance of holistic environmental education, few studies have been conducted of environmental schools in general. In addition, state standards and other measures of accountability measure student success, rather than the role of teachers undergoing change. Furthermore, research suggests that as a school undergoes innovation, certain key individuals are important to facilitating this process. The role of the principal, teachers, and outside facilitators all appear to be key to successful implementation of change. In becoming an environmental charter school, the Jackson Environmental Discovery Center is a unique program to study, not only due to its foci but also due to the new educational paradigm of charter schools that it is defining and exploring.
CHAPTER THREE: METHODS

Since 1993, charter schools have been operating in the state of Wisconsin. Throughout this time, these facilities have been heavily scrutinized throughout the state and nation for accountability in terms of student achievement. As the focus has been on students, little research has been conducted on the effect of charter schools on another significant population, its teachers. Due to this, this study focuses on the behavior/attitude change within the teachers in a charter school facility and the overall cultural change of the school as it transitions from a traditional public school to a charter. This study can be viewed as a case study as it demonstrates the impact of becoming a charter school on one population, or case. According to literature, a case study is a type of qualitative research in which the researcher explores a single entity or phenomenon (the case) bounded by time and activity (a program, event, process, institution, or social group) and collects detailed information by using a variety of data collection procedures during a sustained period of time (Ertmer, 1996). This chapter will focus on the methodology used to collect this data from Fall 2002 to Spring 2004.

Qualitative research methodology

In the world of research, two types of research methodologies exist; qualitative and quantitative research. Quantitative research is conducted using a strict methodology that is meant to be easily replicated. Generally, it relies on numerical data and seeks to discover truths and trends using statistical analysis. Qualitative research, however, is very different as it focuses on "a different way of knowing—one based on experience, empathy and involvement (Rist, 1982, p. 440)". In this methodology, the data collected
are often found as words, phrases and perceptions. According to Rist (1982), the qualitative approach would contend that to understand the current conditions, one must describe and analyze in an ecologically valid manner the values, behaviors, settings and interactions of participants. Rather than presuming that human environments and interactions can be held constant, manipulated, treated, scheduled, modified or extinguished, qualitative research points out that the most powerful and parsimonious way to understand human beings is to watch, talk, listen and participate with them in their own natural settings (p. 440). Like quantitative research, qualitative research is conducted using a specific methodology (or multiple techniques), has key components, and is concerned about replication.

Qualitative research can take on various forms including ethnography and naturalistic inquiry, both of which were utilized in this study. In ethnography, the researcher immerses themselves into the culture they wish to study. They attempt to systematically depict the characteristics of variables and phenomena, to generate and refine conceptual categories, to discover and validate associations among phenomena, or to compare constructs generated from one phenomenon to another (LeCompte and Goetz, 1982, p. 33). The naturalistic inquirer is similar to an ethnographer, but also accounts for their own change and involvement in the study. “The naturalistic inquirer, believing in unfolding multiple realities (through interactions with respondents that will change both them and the inquirer over time)...will insist on a design that unfolds over time and which is never complete until the inquiry is arbitrarily terminated as time, resources and other logical considerations may dictate (Owens, 1982, p. 6).” The naturalistic inquirer will also use emergent strategies to design the study rather than a prior specification and
does not attempt to generalize the findings to a universe beyond that bound by the study (Owens, 1982, p. 7). Both of these techniques were used and built upon each other as the JEDC study began to unfold.

At the very core of research is the desire for replicability. When designing studies, researchers seek to be as specific as possible in their methods and descriptive enough so that subsequent researchers can repeat their study, with the hope that they will obtain similar results. Despite this desire, literature suggests that replicability in ethnography and naturalistic inquiry is a near impossibility. According to LeCompte and Goetz (1982), ethnographic research occurs in natural settings and is often undertaken to record processes of change. Because unique situations cannot be reconstructed precisely, even the most exact replication of research methods may fail to produce identical results. Moreover, because human behavior is never static, no study can be replicated exactly, regardless of the methods and designs employed (p. 35). Other authors seem to agree. Stated Rist (1982) concerning this idea, “There is little to no possibility of absolute replicability of any qualitative study, for the circumstances of the second study would never be identical to those of the first (p. 443).”

Role of the researcher

Part of the challenge for replication lays within the researcher themselves and his/her effect upon the study and its data collection. “Because ethnographic data depends [sic] on the social relationship of researcher with subjects, research reports must clearly identify the researcher’s role and status within the group being investigated (LeCompte
and Goetz, 1982, p. 38). This section of chapter three explores literature concerning the role of the researcher within a qualitative study.

The role of the researcher on his/her study is a well documented phenomenon. Much has been written about this relationship, including its benefits and drawbacks. According to one author, a tension exists within the researcher between the demands of involvement and withdrawal, of participation and detachment (Emerson, 1983, p. 235). To another, Fielding and Fielding (1986), “All social research bears certain features of participant observation—the researcher participates in the social world in some role or other and reflects on the ‘products’ of that participation, and this is no different from what people routinely do. Rather than try to eliminate the effects of the researcher, we should set about understanding them (p. 39)”. Finally, in the words of a still different author, “One way to characterize the option is to consider a continuum where one finds on one end the researcher as participant, totally engaged with the group and clearly identified as an active member, and on the other end, as a detached observer. Here the researcher is not identified as being involved, and by his/her presence does not generate interaction with other participants. For those involved in educational fieldwork, the most common practice is to find oneself somewhere in the middle (Rist, 1982, p. 443)”.

Some strengths and weaknesses occur within studies that have participant observation on the part of the researcher. First and perhaps most obviously, participants may act abnormally. This behavior might be consciously planned, where subjects seek to reveal themselves in the best possible light or it might be an unconscious distortion conducted to provide what participants want the researcher to see (LeCompte and Goetz, 1982, p. 36). Furthermore, some research suggests that because of the personal
involvement of the researcher with the participants, a bias or distortion in observation and interpretation is produced (Emerson, 1983). Despite this, the same author also argues that “subjective experience is not only a source of bias, but also a source of insight and understanding, both of those studied and of oneself (p. 188)”. Emerson suggests that the qualitative researcher must be extremely self-conscious about their relationship to the setting. They must be self-reflective and keep an accurate record of methods, procedures and evolving analysis (p. 87). Other authors agree and suggest that to eliminate bias the researcher must establish several field relationships, despite personal preferences and prejudices to subjects within their study (LeCompte and Goetz, 1982).

Finally, fieldwork accounts by Emerson (1983) suggest that three types of relationships exist between the researcher and those observed. First, efforts may be made to induct the observer as a worker and situational resource. Secondly, groups may induct fieldworkers (researchers) into full membership. Finally, those studies may seek to establish greater intimacy than a strictly research relationship (p. 237). Regardless of the relationship and procedures, it seems clear that “Simply by studying a group, culture or setting, the investigator affects it in some ways (LeCompte and Goetz, 1982, p. 52)”.

Project Timeline

In an effort to further define and explain this project, the following timeline is submitted:

- November 2001—Administration at Jackson Elementary first heard about charter school monies from the Wisconsin DPI at a Stevens Point School District principal’s meeting. Coming back to the staff, Jackson Elementary School principal, Carl Coffman, discussed the idea of submitting an application for a
charter. Overall the staff seemed excited about the idea and within a few weeks, three main emphases were decided upon: environmental education, technology and career education.

- December 2001—Jackson Elementary staff submitted their planning grant proposal to the DPI for $10,000. In February of 2002, they received word that their proposal had been granted and significant planning began.
- January-May 2002—Technology training was introduced for JEDC staff. This included training and workshops in subjects such as digital cameras, digital movie and time-lapse photography, digital microscopes and an environmental education website workshop conducted on November 13, 2002.
- May 2002—Parents of Jackson Elementary students were sent a survey to determine the level of support for the charter school idea. Parents were very supportive of the JEDC and new emphases
- January 2002-May 2004—Initial Charter School Steering Committee meetings begin with the first steering committee on January 3, 2002. Subsequent meetings have occurred on a monthly basis since then.
- Summer 2002—“Discovery Learning” workshop with Jackson teachers. A professional development workshop on inquiry-based teaching, including strategies and suggested methods for implementation was conducted for 20 Jackson Elementary teachers, July 15-19, 2002.
- July 23, 2002—JEDC Implementation Grant Proposal is finalized & submitted to the Wisconsin Department of Public Instruction.
- Fall, 2002—Staff of Jackson Elementary conducted three separate site visits to obtain ideas for site development at the JEDC. These visits included Port Edwards on October 14th, Tri County School on October 16th and Freckman property (adjacent to JEDC) on November 14th.
- September 30, 2002—Researcher meets and becomes involved in JEDC project. Research study begins.
• October 4-6, 2002—Six Jackson Elementary teachers and the principal attended the Wisconsin Association for Environmental Education state conference in Rosholt, Wisconsin to learn more about environmental education and its relationship with technology.

• October 2002—JEDC received word of receipt of $150,000 implementation grant.

• Winter 2002—Spring 2004 - JEDC staff participate in professional development workshops on topics such as Schoolyard Gardening, Composting, Prairie Ecology, Tips and Tricks for Taking Your Students Outdoors, and Wisconsin Birds.

• January 2003—First staff survey is dispensed to all staff at JEDC.

• Spring 2003—JEDC staff determines the need for a summer curriculum writing institute, researcher is contacted and employed. In addition, curriculum writing and site subcommittees meet periodically.

• May 2003—JEDC celebration. JEDC celebrates their environmental charter school status with a day-long celebration. This includes K-6 environmental education activities, planting of the butterfly garden and prairie, and a performance by Tom Pease.

• June 2003—Visioning session is conducted with entire JEDC staff, to answer the question, “In the year 2010 how will a graduate from the JEDC differ from one who graduates today?”

• July 14-18, 2003—JEDC Summer Curriculum Writing Institute. Fourteen K-6 teachers participate and an Environmental Education and Science scope and sequence is developed.

• Summer 2003—Second JEDC Implementation Grant Proposal of $150,000 is finalized & submitted to the Wisconsin Department of Public Instruction.

• September 2003—New Science and Environmental Education curriculum is presented to entire JEDC staff at in-service.

• October 2003—JEDC received word of receipt of second $150,000 implementation grant.
Fall 2003—Researcher works with JEDC staff and models environmental education methodology in their classrooms. In addition, six different groups of individuals interested in starting an environmental charter school of their own visit the JEDC.

January, 2004—Second staff survey is dispensed to JEDC staff.

Winter 2004—Parent survey is dispensed to JEDC parents to determine their thoughts on the new charter school. Parents are still extremely supportive.

Spring 2004—JEDC teachers discuss aligning their curriculum to another discipline (most likely Social Studies) in Summer 2004.

April 2004—Presentation is given to JEDC staff regarding study findings. Research study ends.

Factors in conducting a successful qualitative study and researcher involvement

In conducting a qualitative study within an educational setting, several steps and factors have been identified as attributes to success. These steps include: gaining access, building trust and rapport, time and loss and replacement. The following text describes how the researcher attempted to follow these steps and the actions she took for each component.

The first step is to gain access to the population being studied. For the purposes of this study, access was relatively simple as the researcher’s advisor was already involved with the JEDC through the Charter School Steering Committee (CSSC). Faculty at the Wisconsin Center for Environmental Education at UW-Stevens Point had been contacted in summer of 2002 for consultation and aid regarding becoming an environmental charter school. When the researcher began her study in fall of 2002, a relationship had already been established between the university and the facility, thereby making it relatively easy for her to study this population. Originally the researcher met
with the principal in October of 2002, to establish a relationship and begin to understand the case. The researcher was given access to a number of documents, including parent newsletters, the charter school grant application and other information from the Wisconsin Department of Public Instruction. As literature suggests, in gaining access there usually are tradeoffs, "In return for entry, gatekeepers may negotiate certain prerogatives in the areas of defining the focus of the study, the areas of the organization that may be researched, the right of prepublication clearance, ownership of the data and framework for the analysis (Rist, 1982, p. 442)". Although relatively few initial parameters and restrictions were set by the gatekeepers of this study (the principal and Stevens Point School District), permission was gained by the researcher from the district office as well as a submission and approval of a proposal to the Institutional Review Board at UW-Stevens Point (see Appendix A).

The next step identified is to establish rapport and trust. "There’s a widespread consensus among field researchers that the rapport or trust between the observer and the members is an essential ingredient for the production of valid, objective observations (Emerson, 1983, p. 181)." The researcher sought to gain this in several ways during the eighteen months of the study. In year one (from October 2002 to May 2003), access was initially given to attend CSSC meetings and full staff meetings that focused on the development of the charter. The researcher also visited the site at least once a week, completing various odd jobs for the principal in order to become part of the school culture and to eliminate biased interactions with participants who might be nervous or uncomfortable when the researcher was present. In addition, for the first several months, the researcher sat back, observed and listened in an attempt to build trust and have a
better understanding of the study climate. This was all done as recommended by literature, “Not to ‘work one’s way in’ in a careful and thoughtful manner is to heighten significantly the possibility of gaining little or no meaningful data on key aspects of the setting (Rist, 1982, p. 442-443)”.

After a few months of becoming part of the “background”, the researcher began to become more involved. She commenced by presenting to the staff in January of 2003. The goal of this presentation was to solicit individuals to participate in the case study as well as to introduce the staff to the researcher and the project. The researcher also attended a Parent Teacher Organization (PTO) meeting in the spring of 2003 and was available to model environmental education within the JEDC classrooms upon request. During the first year, the researcher worked minimally with students and teachers in grades 1-6. She also became a key player in the curriculum subcommittee which led to her facilitation of several professional development opportunities for the staff. This included a visioning session in 2003 where the question of, “In the year 2010 how will a graduate from the JEDC differ from one who graduates today?” was answered to steer a summer curriculum writing institute.

During year two, beginning in June of 2003, the researcher facilitated a summer curriculum writing institute at the JEDC. This institute was developed by a team of teachers, administrators and the researcher. During this week long session, she facilitated the development of an Environmental Education and Science scope and sequence. A complete transcription of the institute can be found in Appendix I. During year two, the researcher also began to continue to develop rapport and trust with the teachers by continuing to serve on the CSSC, conduct professional development workshops and teach.
on a weekly basis in a fifth/sixth grade classroom. The success of all of this was initially demonstrated in December, 2003 when the principal called the researcher for her opinion on an intern hire at the JEDC. Clearly her opinion was highly valued by the administration as she had become part of the culture; furthermore, several teachers during year two demonstrated acknowledgement and acceptance of the researcher at the school site. This was epitomized during a staff meeting in September 2003 where a teacher commented about the researcher, “She is one of us now”.

The third step, time, is an important factor in conducting a qualitative study. When completed, this study consisted of eighteen months of data collection (October 2002 to March 2004). This time frame is directly aligned with literature, “In order to assess the rate and direction of change, ethnographers establish long term residence in their fields—extending from six months to three years (LeCompte and Goetz, 1982, p. 45).” The element of time is also discussed by Owens (1982), “Time—an extended period of time—immersed in the situation is important. It provides for entry into the situation, ‘learning the language’ and becoming accepted, trusted and ultimately relatively unnoticed (p. 14)”.

The final factor necessary to discuss is loss and replacement. Loss and replacement as they naturally occur become topics of study in themselves. Growth and attrition are assumed to be normal processes in most group settings, so the ethnographic task becomes the identification of their effects (LeCompte and Goetz, 1982, p. 49). Throughout the eighteen months study period, fifteen new teachers came on board and eight left. Most staff loss was due to consolidation of positions in areas such as music and art by the Stevens Point School District and retirement. Within the core grade levels,
five new teachers began in the 2003-2004 academic year. Three of these teachers requested a transfer to the JEDC from other elementary schools within the district. According to the JEDC principal, these teachers were chosen due not only due to their strong teaching experience but also their demonstration of an interest and commitment to environmental education.

Data collection

In conducting a qualitative study, many different methods of data collection are suggested. These sources can range from observations to focus groups but according to literature, the variety and complexity of the sources is the most important aspect. “The greater the alternative sources of data employed in the analysis of a setting, the greater the possibilities for accuracy and a holistic presentation (Rist, 1982, p. 444).” In this study several different methods were employed including observations, surveys, discussions, meetings, transcriptions and interviews. Rather than seek out key informants, different methods were used with various populations in an attempt to seek out a holistic understanding of the entire population being studied.

The first method employed was that of observations or field notes. According to literature, field notes consist of two kinds of materials—descriptive (describing the setting) and reflective (demonstrating the observer’s frame of mind, ideas and concerns). Descriptive field notes should be as unbiased as possible and presented in detail rather than summarized or evaluated. Reflective field notes, however, emphasize on speculations, feelings, problems, ideas, hunches, impressions and prejudices (Bogdan and Biklen, 1982, p. 84-85). For this study, observations were primarily reflective field
notes which described the researcher’s feelings, concerns and frame of mind concerning
the interactions among participants as well as between the researcher and the participants.
Furthermore, the researcher set up criteria for these observations with her major professor
on November 15, 2002. These criteria can be found in Appendix B and were used
throughout the data collection.

The second method exercised was surveys. In an attempt to concretely measure
change, an attitudinal survey was sent out to the entire JEDC staff twice throughout the
study period. The first survey was dispensed in January 2003 and was developed to
establish a baseline of information for comparison within individuals. Each survey was
coded to a specific staff member so that their responses could be compared between year
one and year two. The entire packet sent to each teacher in year one can be found as
Appendix C. In January of 2004, a follow-up survey was given to the staff. Once again,
the surveys were coded using an identical system so that comparisons could be made
from year to year within an individual. Furthermore, several questions remained the
same between the two surveys. This survey from year two can be found as Appendix D.

The third method of data collection was informal discussions. These discussions
occurred between the researcher and the study participants in a variety of venues from the
staff lounge to the hallway. Using methodology suggested by literature, the researcher
would record a discussion immediately following an interaction or within the interaction
itself. “Ethnography uses as its primary data collection technique the writing of field
notes either in situ or as immediately following the event observed as is ethically and
logistically possible (LeCompte and Goetz, 1982, p. 36).” The researcher tried to record
verbatim statements if possible, and at the very least capture the main idea and feeling presented in each interaction.

The fourth means of data collection were meetings. These meetings included charter school steering committee meetings, curriculum sub-committee meetings, PTO meetings, staff meetings and one-on-one meetings with the principal and various staff members. As before, the researcher would record data from a meeting immediately following the gathering or within it, as discretely as possible. As the researcher attended a variety of meetings, she obtained data from a large cross section of staff at the JEDC.

The fifth means of data collection was that of interviews. The interviews conducted at the JEDC varied significantly in type including informal and formal interviews. "Just as conversations may vary in duration, number of topics, depth and structure, so will interviews. A number of options exist including formal interviews, informal interviews, questionnaires, life history interview and interviewing key informants (Rist, 1982, p. 443)." JEDC interviews were conducted in year one with key staff who were retiring. These interviews primarily attempted to supplement other data collected. According to Bogdan and Biklen (1982), interviews may be used in two ways. Either they may be the dominant strategy for data collection, or they may be employed in conjunction with participant observation, document analysis and other techniques (p. 135). For this study the latter is true.

During year two, three additional forms of data collection were used: evaluations, assignments, transcriptions. As previously mentioned, the researcher was employed by the JEDC during summer 2003 to facilitate the staff in writing their Science and Environmental Education curriculum. During this time, evaluations, assignments and
transcriptions were collected. The evaluations came from the participants of the curriculum writing institute. Participants were asked to answer the following three questions:

1. What did you feel went well during this week of curriculum writing?
2. What could have been improved?
3. Do you have any other comments or questions?

In addition, several teachers signed up and received graduate credit for the curriculum institute. As part of their course requirements, participants were asked to complete two assignments, one describing their philosophy of environmental education and another demonstrating how they would infuse environmental education into their curriculum. Three teachers completed these assignments. Finally, transcriptions were taken of the entire curriculum institute which can be found in Appendix I. Each of these means for data collection was then coded by the researcher in the process described in the next section.

**Analysis and coding**

In order for qualitative data to be useful they must be interpreted and analyzed in a specific way. This analysis is often viewed as the most demanding aspect of qualitative research and one that differs from study to study. “The exact manner in which the investigator will travel the path from data to observations, conclusions and scholarly assertion cannot and should not be fully specified (McCracken, 1988, p. 41)”.

McCracken (1988) also states that the object of analysis is to determine the categories, relationships, and assumptions that inform the respondent’s view of the world in general and the topic in particular (p. 42). This determination, called coding, is a way to
fragment the raw data in a way that makes it useful to the researcher. To Glaser (1978),
coding gets the analyst off the empirical level by fracturing the data, and then
conceptually grouping it into codes that then become the theory which explains what is
happening in the data (p. 55).

According to literature, two types of codes exist, process and situational codes.
Process codes are words and phrases that facilitate categorizing sequences of events,
changes over time, passages from one kind or type of status to another. Process codes
point to time periods, stages, phases, steps and chronology. Situational codes are
different; their aim is to place units of data that describe for the researcher the setting or
particular topic. They identify a participant's world view and how they see themselves in
relation to the setting or topic (Bogdan and Biklen, 1982).

Developing and discovering codes within qualitative data has several steps. First
the researcher must search through the data and classify it. In the case of the JEDC
study, data were classified by the methods used for data collection: observations (O),
surveys (S), discussions (D), meetings (M), evaluations (E), assignments (A),
transcriptions (T) and interviews (I). Each component was numbered within each type of
data (e.g., observation 1 = O1, survey 1 = S1) and the data from each year were kept as a
discrete unit. Each data type with the number of sources for each year is listed in Table 1
(see next page).
Next, the data were read through at least twice and while perusing, a preliminary list of ideas was generated. Then the raw data were reviewed again and propositions were assigned. For this research, a proposition represented a distinct thought or attitude that had been identified by research participants. These propositions were then culled from each of the data types and coded as a particular proposition within the raw data. Finally, propositions were compiled and placed into a table for comparison. Some propositions had stronger substantiation as they were cited by participants in more than one field note. Propositions from year one can be found in Appendix E, in Appendix F for year two.

The next step was to further group these propositions into categories and larger themes. This was done using a mode of analysis identified in literature as thematic analysis. “Thematic analysis is the clustering and presentation of material by key themes found within the study (Rist, 1982, p. 445).” These categories were developed by the researcher, keeping in mind that “a keen eye must be kept for all logical relations, not

<table>
<thead>
<tr>
<th>Year One (October 2002- May 2003)</th>
<th>Year Two (June 2003- March 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meetings (M): M1- M29</td>
<td>Meetings (M): M30-M38</td>
</tr>
<tr>
<td>Informal Discussions (D): D1-D6</td>
<td>Informal Discussions (D): D7-D16</td>
</tr>
<tr>
<td>Observations (O): O1-O2</td>
<td>Observations (O): O3-O6</td>
</tr>
<tr>
<td>Staff Surveys (S): S1-S44</td>
<td>Staff Surveys (S): S1b-S48</td>
</tr>
<tr>
<td>Interviews (I): I1</td>
<td>Curriculum Institute Evaluation (E): E1-E6</td>
</tr>
<tr>
<td>Assignments (A): A1-A4</td>
<td>Curriculum Transcriptions (T): T1-T4</td>
</tr>
</tbody>
</table>

Next, the data were read through at least twice and while perusing, a preliminary list of ideas was generated. Then the raw data were reviewed again and propositions were assigned. For this research, a proposition represented a distinct thought or attitude that had been identified by research participants. These propositions were then culled from each of the data types and coded as a particular proposition within the raw data. Finally, propositions were compiled and placed into a table for comparison. Some propositions had stronger substantiation as they were cited by participants in more than one field note. Propositions from year one can be found in Appendix E, in Appendix F for year two.

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only those of identity and similarity but those of opposition and contradiction (McCracken, 1988, p. 45). Once these relationships were interpreted from each proposition, they were clustered into categories by the researcher. Additionally, the researcher sought verification from a JEDC teacher of the categories for each year of data. The teacher received the propositions and was asked to create categories from them. These categories were then compared and combined with those previously created by the researcher. In the generation of the first year of categories, fifty-three percent of propositions were similar between the researcher and the teacher. In year two, eighty-two percent were similar. The final categories from this synthesis can be found in Appendix G (for year one), and Appendix H (for year two). Finally these categories were further clustered into larger conceptual themes. The researcher and her graduate committee analyzed the themes from each year and discovered thematic attitudinal relationships between year one and year two at the JEDC. These final themes identified can be found in Appendix J. Another way to look at the different types of data (propositions, categories and themes) would be in Figure 1 (see next page). Each type serves as a foundation for the next, with larger conceptual understanding being found as one travels up the pyramid.
For greater discussion on these propositions, categories and themes, refer to Chapter 4.

**Validity and Reliability**

In any study the researcher is concerned with validity and reliability. Validity refers to whether or not the study measured what it intended to measure. In comparison, reliability is the extent to which a procedure yields the same answer. Two types of reliability have been identified, internal and external. Internal reliability refers to the degree in which other researchers, given a set of previously generated constructs would match them with data in the same way as did the original researcher. External reliability addresses the issue of whether independent researchers would discover the same phenomena or generate the same constructs in the same or similar setting (LeCompte and Goetz, 1982, p. 32). In this study both of these elements were addressed by review of the study’s generated categories and themes by both the researcher’s graduate committee and JEDC teachers.
After the categories were developed, the researcher used member checks to enhance their credibility. In a member check, the researcher continuously corroborates the data with relevant others in the organization being studied (Owens, 1982). Two JEDC teachers were identified by the researcher for these member checks, one for each year of data. These individuals were selected as they had limited involvement with the study, thereby minimizing researcher bias from the data collection. The individuals were given a list of propositions from each year and asked to group them together into categories. These categories were then compared with the researcher’s grouping for similarities and differences. These member checks were conducted twice throughout the study for each year of data in year one and year two.

Summary

This chapter described the methods of conducting a case study of Jackson Elementary School through its transition to an environmental based charter school, known as the Jackson Environmental Discovery Center. The study was primarily focused on the teaching staff and administration at the charter facility. Several meetings of the JEDC steering committee, large group committee, summer curriculum writing institute and curriculum committee were attended and facilitated to document the overall culture change. Moreover, two sets of surveys were conducted to determine attitudinal changes within the entire JEDC staff through the conversion that occurred during the eighteen month time frame. Additionally, several data points including informal/formal interviews, discussions and observations were made by the researcher and the study
participants to describe this phenomenon. The results from these methods are found in the next chapter.
CHAPTER FOUR: RESULTS

Introduction

This chapter presents the major findings of this study, including its propositions, categories and major themes. In the quest to understand the attitudes of teachers during this transition, data was collected from a number of sources including interviews, observations, meetings and informal discussions. Through constant and comparative analysis, one hundred and eighty propositions were generated from the data. As previously stated in chapter three, each proposition represents a distinct thought or attitude that had been identified by research participants throughout the year and half of data collection. These propositions were then culled from each of the data sources (i.e. surveys, interviews, meetings) and coded as a particular proposition (P1-P186) within the raw data. Finally, propositions were compiled and placed into a table for comparison. Some propositions had stronger substantiation as they were cited by participants in more than one data source. Similarly, categories were gleaned from these one hundred and eighty propositions and verified by a teacher participant for each year of data. Overall, twenty three categories were generated in year one data, covering topics such as teacher workload, curriculum and implementation concerns. In contrast, sixteen categories were generated in year two, including the role of the principal, teacher practices in environmental education and teacher empowerment and ownership. The final stage of analysis involved integrating these categories into larger conceptual themes. This was done by the researcher, as well as individuals on her graduate committee. The themes generated were then shared and combined into five major themes which were present
throughout the study. These themes demonstrate an evolution of teacher participants
towards certain practices and belief systems.

The following table (Table 2) displays a synthesis of each of the themes resulting
from this study. Each theme is discussed in the context of its supporting categories and
propositions.

**TABLE 2: Final Themes with Supporting Categories**

**THEME 1: Development of the Curriculum**

1. Year 1:
   - Curriculum—Conflict over ownership of subjects, who's teaching what?
   - Curriculum—Still teach basics and environment
   - Curriculum—How will we integrate in all grade levels?
   - Curriculum—Originating from top down
   - Curriculum—We should be doing something different

2. Year 2:
   - Curriculum—Develop a plan/timing
   - Curriculum—Importance of infusion
   - Curriculum—Need to set specific competencies

**THEME 2: Importance of Support and Involvement**

Supporting Theme 1: Leadership:
- Role of Principal
- Role of University
- Role of Researcher

Supporting Theme 2: Encouragement
- Role of Principal
- Role of partnerships with community
- Parent involvement (Positive)
- Role of Parents/Parent comments
- Impact on students/reactions by them
- Student involvement

**THEME 3: Development of Teacher Empowerment and Ownership**

- Enthusiasm towards becoming a charter
- Becoming more comfortable with idea, sense of ownership
- Assessment concerns—DP1
• Roles of staff—steering committee vs. non
• Outcomes of Collaboration
• Teacher Empowerment & Ownership

THEME 4: Development of the Teacher as a Professional
• Affect role as teacher
• Affect job responsibilities
• Teacher workload
• Role as educator
• Teacher Practices in Environmental Education
• What is Environmental Education?
• Teacher needs

THEME 5: Perceptual Changes-Barriers and Concerns
1. Year 1:
   • Why become a charter school?
   • Implementation concerns
   • Hesitant towards charter and EE school
   • Resistant to idea
   • Fears: Overwhelmed—too much

2. Year 2:
   • Issues to work on
   • Parent involvement (Negative)

In addition, Table 3 (next page) demonstrates the evolution of each theme from year one to year two.
### TABLE 3: Breakdown of Themes between Year One and Year Two

Key: Categories are italicized for each year, supporting propositions (examples) are below each category

<table>
<thead>
<tr>
<th>Year One (October '02-May '03)</th>
<th>Year Two (June '03-March '04)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme 1: Development of the Curriculum</strong></td>
<td><strong>Curriculum—Develop a plan/timing</strong></td>
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<tr>
<td></td>
<td>P138- We need more collaboration time to develop and share plans, to think about timing in the curriculum</td>
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<tr>
<td></td>
<td>P163- Tying their curriculum to the WI Rivers Academy and other charter schools in Stevens Point</td>
</tr>
<tr>
<td><strong>Curriculum—Conflict over ownership of subjects, who’s teaching what?</strong></td>
<td><strong>Curriculum—Importance of infusion</strong></td>
</tr>
<tr>
<td>P28- &quot;stealing&quot; subject areas by teachers, i.e. &quot;We do birds in 5th grade, now the 3-4th grade teachers are doing it!&quot;</td>
<td>P103- It’s becoming more natural to infuse EE concepts into the curriculum</td>
</tr>
<tr>
<td><strong>Curriculum—Still teach basics and environment</strong></td>
<td>P179- What we did with birds this year wasn’t really infusion—it was insertion</td>
</tr>
<tr>
<td>P89- Don’t feel the core curriculum will really be affected that much</td>
<td><strong>Curriculum—Need to set specific competencies</strong></td>
</tr>
<tr>
<td>P66- Still expect to teach basic curriculum</td>
<td>P120- We need to be more specific about what competencies we want students to have at each grade level</td>
</tr>
<tr>
<td><strong>Curriculum—How will we integrate in all grade levels?</strong></td>
<td>P173- We know the knowledge the kids need to be successful in their fourth grade test</td>
</tr>
<tr>
<td>P72- We will be more analytical as we develop the curriculum</td>
<td><strong>Curriculum—Originating from top down</strong></td>
</tr>
<tr>
<td>P29- the curriculum seems to be coming from the top, down</td>
<td><strong>Role of Principal</strong></td>
</tr>
<tr>
<td>P73- We know the knowledge the kids need to be successful in their fourth grade test</td>
<td>P147- The role of the principal: he has two sides, the side that is very caring and compassionate and the side that is very businesslike</td>
</tr>
<tr>
<td>P149- I believe he is one of the most supportive principals I’ve ever worked under and that his support is vital to the implementation of the JEDC</td>
<td><strong>Role of University</strong></td>
</tr>
<tr>
<td>P4- Clearly he cares a lot about what Dennis thinks and HIGHLY respects him—I wonder if even Dennis knows that?</td>
<td>P128- We would not be where we are today without the partnership we share with UWSP</td>
</tr>
</tbody>
</table>

**THEME 2: Importance of Support and Involvement**

**Role of Principal**

P10- The principal seemed quite frazzled and unorganized

P13- feeling like he has to be two principals. One for the existing school and another for the JEDC

**Role of University**

P4- Clearly he cares a lot about what Dennis thinks and HIGHLY respects him—I wonder if even Dennis knows that?
<table>
<thead>
<tr>
<th></th>
<th>Year One (October '02-May '03)</th>
<th>Year Two (June '03-March '04)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme 2 Continued:</strong></td>
<td><strong>Role of Researcher</strong></td>
<td><strong>Role of Researcher</strong></td>
</tr>
<tr>
<td>P36-</td>
<td>will be a &quot;better teacher&quot; because I'm here; the school will be a better place.</td>
<td>P146- Needed an expert to identify the areas that were important in a prairie. She could teach basic science but she wanted my opinion on what was most important.</td>
</tr>
<tr>
<td></td>
<td><strong>THEME 3: Development of Teacher Empowerment and Ownership</strong></td>
<td><strong>THEME 3: Development of Teacher Empowerment and Ownership</strong></td>
</tr>
<tr>
<td><strong>Enthusiasm towards becoming a charter</strong></td>
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<tr>
<td>P6-</td>
<td>Things seem to be very exciting</td>
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<tr>
<td>P62-</td>
<td>I’ve done more with the outside area in the last few months than in my eight years here</td>
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<td></td>
<td><strong>Becoming more comfortable with idea, sense of ownership</strong></td>
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<tr>
<td>P46-</td>
<td>beginning to explore this &quot;environmental stuff&quot; and liked it</td>
<td></td>
</tr>
<tr>
<td>P61-</td>
<td>I see myself changing</td>
<td></td>
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<td></td>
<td><strong>Assessment concerns—DPI</strong></td>
<td></td>
</tr>
<tr>
<td>P16-</td>
<td>less concerned about demonstrating accountability</td>
<td></td>
</tr>
<tr>
<td>P73-</td>
<td>Hope we are not evaluated too quickly</td>
<td></td>
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<tr>
<td></td>
<td><strong>Roles of staff—steering committee vs. non</strong></td>
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<tr>
<td>P42-</td>
<td>not really part of the charter school process, as they’re not on the steering committee</td>
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<tr>
<td></td>
<td><strong>THEME 4: Development of the Teacher as a Professional</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Affect role as teacher</strong></td>
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<tr>
<td>P33-</td>
<td>“not a school of environmental educators”</td>
<td></td>
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<td></td>
<td><strong>Affect job responsibilities</strong></td>
<td></td>
</tr>
<tr>
<td>P15-</td>
<td>being under compensated</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Teacher workload</strong></td>
<td></td>
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<tr>
<td>P18-</td>
<td>particularly concerned about the amount of work teachers will do</td>
<td></td>
</tr>
<tr>
<td>P45-</td>
<td>not convinced and perhaps is concerned of what impacts there will be to his job</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Role as educator</strong></td>
<td></td>
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<tr>
<td>P169-</td>
<td>Teachers should be providing students with the tools to become life-long learners by emphasizing how to learn rather than what to learn</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Teacher Practices in Environmental Education</strong></td>
<td></td>
</tr>
<tr>
<td>P170-</td>
<td>My personal teaching style has become more inquiry based</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 3: Breakdown of Themes between Year One and Year Two (Cont)

<table>
<thead>
<tr>
<th>Year One (October '02-May '03)</th>
<th>Year Two (June '03-March '04)</th>
</tr>
</thead>
</table>
| Theme 4 Cont.                   | *What is Environmental Education?*
|                                 | P186- I understand so many more issues concerning EE, but I also understand how emotional some issues are for people |
|                                 | *Teacher needs*               |
|                                 | P136- More staff development would be beneficial |
| **THEME 5: Perceptual Changes—Barriers and Concerns** | |
| *Why become a charter school?*  | *Issues to work on*           |
| P30- School became a charter is because there was fear that the school might be closed | P112- I just wish we had more time to explore all of the things we have, “how can we get 28 hours packed into 24 hours without going crazy?” |
| P50- Whole thing is backwards, first you should find the interested teachers, gather them together and then go from there | P123- At times the added work can appear somewhat overwhelming |
| **Implementation concerns**     | **Parent involvement (Negative)** |
| P39- Initially we need to start small—not overwhelm the teachers | P130- Some parents have concerns that some of our JEDC issues are overriding the basics of education (math, writing, reading, etc.) |
| **Hesitant towards charter and EE school** | P134- I have heard parents encouraged not to “choose” JEDC because of their child’s difficulty and dislike of outdoor activities |
| P78- I do not feel prepared to teach EE in my classroom because I have not been trained and have not had the opportunity to look for appropriate materials. | |
| **Resistant to idea**           | **Fears: Overwhelmed—too much** |
| P92- Just another passing trend, taking away from the essentials in education. Taking time and dollars from our students. | P87- Did we take on too much? |

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Discussion of themes

In this section, each theme will be further described in more detail including the categories and propositions used to generate it.

Theme 1: Development of the Curriculum

Throughout the development of the environmental charter school, curriculum was a consistent topic of discussion. In year one, curriculum concerns focused around items such as conflict over the ownership of material, curriculum change, and discussion on the origins of the curriculum itself. For example in many meetings during the first year, comments from teachers such as the following were often said, "We do birds in 5th grade, now the 3rd and 4th grade teachers are doing it (Proposition 28)." Teachers seemed concerned over the distribution of curricular content within the grade levels. Upper level teachers often commented that they had special environmental activities that were implemented in fifth and sixth grade. However, with the new environmental focus, many lower grade teachers were using the same activity, thereby eliminating the novelty of this lesson when it was taught in their classrooms. Furthermore a few upper grade teachers felt that these lessons were taught at younger grades because they were "cool" but often students did not have the cognitive ability to understand the content and purpose of the lesson itself at the younger stage in their development. During the first year, there was dissonance about what was being done within the curriculum at each grade level.

In addition, there was some resistance and questions regarding how the curriculum might change during year one. Some teachers were concerned that by having an environmental focus, the basics skills of reading, writing, and mathematics would be
lost (Proposition 94). Others were concerned about the balance for younger students between teaching the basics and environmental content (Proposition 43). Finally, a few teachers didn't believe their curriculum would change at all but that only the basics would still be taught, even with the new curricular focus.

Furthermore, discussions during the first year also focused on the origins and development of the curriculum itself. A few teachers felt in Proposition 29 that the curriculum was coming from the top down (driven by administration and the university). Also several teachers wondered how the curriculum would be integrated to all grade levels and subjects.

During year two, curriculum was still a topic of discussion but in a more hands-on, implementation focused context. Many JEDC teachers had participated in the curriculum institute during the summer of 2003. At this institute, a Science and Environmental Education scope and sequence had been developed. For many educators this was the first time they could see how Environmental Education meshed with a traditional discipline. Moreover, it was also an opportunity to alleviate previously documented fears, as individual teachers were able to discuss certain activities and their appropriateness at different grade levels. As such, concerns in year two were very different. During this time, teachers were concerned about the infusion of EE into the curriculum, specific competencies for students, and developing an overall plan for content Kindergarten through 6th grade.

Infusion was a strong topic in year two. As teachers began to experiment with the new curriculum they had developed, comments such as the following were often heard, “It’s becoming more natural to infuse EE concepts into the curriculum (Proposition 103)”
or "My actions are changing, I'm trying to infuse more (Proposition 116)". Teachers even began to wrestle with the insertion of environmental lessons versus the infusion or integration of them. This happened particularly at the third and fourth grade level where the environmental focus within the curriculum was conducted around certain "bird" and "tree" days. Rather than conduct EE topics throughout the entire curriculum, these teachers chose to set aside certain days, generally once a month, deemed "Bird Day" or "Tree Day". Later upon reflecting on this one teacher stated, "What we did with birds this year wasn't really infusion, it was insertion (Proposition 179)". Throughout the study teachers were investigating the implementation as well as the content of their newly formed curricula.

The concern over curriculum implementation was also present as teachers began to discuss its structure. In year two, teachers stated things such as "We need more collaboration time to develop and share plans, to think about timing in the curriculum (Proposition 138)" or that "The curriculum needs to be spiraled (Proposition 181)". The layout of the curriculum also generated excitement as teachers started to think about the impact of its development. For example one teacher stated, "I can't wait to see what this year's Kindergarteners are like as sixth graders! (Proposition 174)". Clearly she was/is excited about the building of a certain outcome within the JEDC students through this environmentally-focused process.

The final comment about curriculum during year two was in specifically developing competencies for students. As teachers began to experiment, they continued to be concerned about student assessment. Some teachers focused on the fourth grade state assessment and were perplexed about the merging of this environmental curriculum
with specific, state-tested competencies. In contrast, other teachers were willing to go beyond traditional assessment and develop portfolios or other types of evaluation to appraise their students. These teachers stated that “We need to be more specific about what competencies we want students to have at each grade level (Proposition 120).” Throughout year two teachers felt that competencies still needed to be articulated and planned throughout the curriculum.

**Theme 2: Importance of Support and Involvement**

The second theme discovered is the importance of support and involvement. This theme concerns both structures that exist within and outside of the JEDC. Throughout the study teachers were seeking both external and internal support and leadership. As such, two supporting themes have been developed for this larger conceptual theme; the first, of leadership and the second, of encouragement.

When undergoing change strong leadership is often needed. Individuals need to feel a sense of common purpose and an overall goal that they are striving towards. As stated in literature, “… when undergoing transformation, a strong leader with a clear vision is often needed. Teachers and staff of schools need to feel that their leader (usually the principal) has a plan, a road map of where they’re going. This direction will often ease the change process and the resistance to it (Glatthorn, 1992, p. 195-197).” In the JEDC study, this leadership came from two major sources, the principal and the University of Wisconsin-Stevens Point (UWSP). In year one, leadership was often offered and accepted primarily from the outside. For example, at the beginning of the study, the principal confided to the researcher that “he doesn’t (didn’t) know where this is
heading. I'm (the researcher) the ‘tour guide at the carnival’ (Proposition 11)”. Often in year one the principal, lacking environmental education training himself, was at a loss for demonstrating leadership in this content area and thus looked externally. Not only to the researcher but also the university as the researcher’s advisor was a key confidant for the principal throughout the study period. Oftentimes the researcher’s advisor would offer a suggestion or comment that was immediately acted upon by the principal. As stated in Proposition 4, “Clearly he cares a lot about what Dennis thinks and highly respects him…”. Another teacher in year one stated that she “will (would) be a better teacher because I'm (the researcher) here; the school will be a better place (Proposition 36).” UWSP played a large leadership role in establishing leadership and vision during the first year of the case study.

In the second year, leadership was still necessary but expanded to include the principal. The principal hired three new teachers to the JEDC staff, considering their environmental ethic and teaching methodology towards the environment as key criteria for employment. In addition he spoke to a few teachers still critical of the process. “I mentioned my interest in having her ‘embrace’ our EE / charter school efforts this school year, and to make herself more a part of what is being done by the teachers in her unit in this area (Proposition 151)”. He also felt more comfortable with his role as charter school principal as he stated in Proposition 157, “he feels his role has changed as a charter school principal. He is ‘feeling good’; he is where he needs to be and when”. The university was still involved in a leadership role in year two and was recognized as such by comments including, “We would not be where we are today without the partnership we share with UWSP (Proposition 128)”.

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The second supporting theme within support and involvement is encouragement. Like the supporting theme of leadership, this encouragement also came from both the outside and inside of the JEDC. Internally, encouragement came from the principal and the JEDC students. Externally, encouragement was present in partnerships with the community and JEDC parents.

Though he may not have always been perceived as a strong leader, the principal was consistently supportive throughout the charter school development. In year one, data such as Proposition 20 state that he is the “sort of principal who wants all staff to buy-in”. The principal wanted to create an atmosphere where everyone was onboard, engaged and involved. He often gave early release time, monies for supplies and professional development, and much of his own personal time to support and encourage the teachers at the JEDC. During year two, the importance of this encouragement was further strengthened by data from teachers which states this sort of commitment. From Proposition 149, “I believe he is one of the most supportive principals I’ve ever worked under and that his support is vital to the implementation of the JEDC” and Proposition 153, “The principal seems very supportive of what I need”.

Other internal support and encouragement came from the students themselves. As teachers began to explore environmental education in year one, the students positively responded. Teachers began to become excited and made comments about the sense of ownership that this new environmental focus was creating for their students. The kids seemed excited (Proposition 25) and many teachers felt that using the environment to teach students was a great way to capture a child’s attention through a medium that they are already comfortable with (Proposition 63). In year two, this support from students
was even more prevalent with a larger number of comments from teachers about student responses and involvement. From general comments about student excitement, “Children enjoy outdoor experiences (Proposition 107)” to “It’s neat to see the kids’ enthusiasm carry over to their work. It’s very obvious after a trip to the outside (Proposition 135)”, student excitement towards the outdoors was growing. Another comment from teachers in regards to their learners came in reference to low performing students. Some teachers saw the success of using the outdoors to engage these students and thus were further encouraged to teach this way. Stated one JEDC teacher, “I’m seeing strengths in children that I would have never had the opportunity to see if it weren’t for our JEDC efforts (Proposition 126).

External encouragement for the JEDC process came from the JEDC parents themselves and community partnerships. From the beginning, many parents were supportive of the new charter school focus. At a PTO meeting early in the study, a parent stated her excitement in sharing the environment with her child. She declared that it had been so fun to connect with her child in that (this) way (Proposition 24). Furthermore none of the parents withdrew their students from the school once it had established its new environmental focus and parents participated in various committees (i.e. curriculum, site, steering committee) and miscellaneous projects. The parents also responded positively in a parent survey dispensed during year one and year two. This support was recognized by the principal in Proposition 150, “It is so important to have parent support—this could not have happened without them” and by teachers in Proposition 156 where they stated “...they have never had this many parents involved in school things before”. Additional external support was provided by partnerships within the community
including other environmental charter schools in Stevens Point and the university. The researcher was often consulted about curricular content in different Environmental Education and Science areas (Proposition 146) during year two. As succinctly summarized by the principal in year two, “Three vital components of the success of the JEDC are its staff, students and community (Proposition 164)

Theme 3: Development of Teacher Empowerment and Ownership

Another theme that was prevalent throughout this study was the development of teacher empowerment and ownership. Connecting with Theme 2: Importance of Support and Involvement, this brought about notable change within the JEDC teachers.

During year one, the most prevalent feeling expressed in the data was that of enthusiasm and excitement. Teachers were optimistic about the future of their school, though the path to becoming an environmental charter school was still relatively uncharted. Proposition 6, “Things seem to be very exciting” had the most sources of data to support it with eighteen discrete references from surveys, discussions and meetings all stating this excitement. Along with this sense of enthusiasm, teachers also began to become more comfortable with the idea of being an environmental school. Comments such as Proposition 46, I’m “beginning to explore this ‘environmental stuff’ and like it” were common as well as statements about seeing themselves change (Proposition 61) and beginning to develop a sense of ownership (Proposition 71) were found throughout the first year of data. Teachers were also starting to display ownership by looking at student assessment strategies. In one proposition, Proposition 31, a teacher stated that there was a, “difference between what the state needs and what we need”. Teachers were beginning
to explore and investigate the idea of their own autonomy, one of the aspects of a charter school.

The only disparity of ownership during year one was in the category of Roles of Staff—Steering Committee versus Non Steering Committee. In order to manage and direct the development of the JEDC, a charter school steering committee was developed early on. This committee was made up of grade level classroom teachers, university personnel, parents, school district personnel (i.e. Environmental Education Curriculum Coordinator, Science Curriculum Coordinator) and the principal. Although the size of this group varied from meeting to meeting, only four of the sixteen traditional classroom teachers on staff were originally on this committee. In addition, two other teachers, both in special education, made up this group. While the meetings were open and monthly minutes shared, a disconnect existed in the first year between staff who were on the charter school steering committee and those that were not. Some teachers felt out of the loop (Proposition 21) despite the fact that large group meetings were conducted periodically and monthly newsletters were sent out detailing the process. This was further demonstrated in statements from non-committee staff such as Proposition 42, which stated that they were not really part of the charter school process as they're not on the steering committee. This is notable because after the first three months of the study, the school had officially become a charter school with the state. Therefore it could be argued that everyone should have felt that they were part of the charter school process, yet clearly they did not.

In year two, attendance at the charter school steering committee did change with six traditional classroom teachers becoming part of the committee, rather than four. In
addition, seventy-eight percent of the entire classroom teacher staff attended the curriculum institute. Although attendance is perhaps not the most accurate indicator of ownership, it is mentioned nevertheless. Teachers were not being forced to attend these meetings or additional opportunities for professional development, yet they still were present.

In year two other categories also demonstrate a development in ownership and empowerment. First is the category of Outcomes of Collaboration. When teachers were asked in the follow-up staff wide survey, “What are the successes of the JEDC?” many teachers commented on the overall climate of collaboration at the school. One fifth of the total surveyed population made reference to Proposition 111, “I think there is less pressure and more teamwork going on, ‘more camaraderie’”. Teachers were starting to feel as though they were part of something, regardless of their level of involvement. In addition, they made comments about the school working towards a common goal (Proposition 131) and increased communication building-wide (Proposition 125) as school successes. Finally, one third of the teachers who returned their surveys in year two also commented on the high level of enthusiasm and excitement still present at the JEDC.

The final demonstration of this theme in year two is with the category specifically titled, Teacher Empowerment & Ownership. Within this category several statements were made about feeling a sense of ownership and even pride in being part of the JEDC staff. During year two, teachers were given the autonomy to order many new environmental education materials with implementation funds and attend almost any relevant professional development opportunity. One new JEDC teacher during year two
(who had transferred from another school within the district) was so excited about the ability to purchase materials and try out new things that she stated, “This is such a dream! (Proposition 145)”. Another teacher specifically commented about the ownership she felt at the JEDC in terms of the curriculum. As she affirmed in Proposition 159, “They (we) have gone from the ‘doers of the curriculum to the owners of it. If we don’t like it, it’s our fault and we can change it!’” Teachers were feeling as though they were responsible and empowered to bring about change within their new school paradigm.

Theme 4: Development of the Teacher as a Professional

The fourth theme that emerged from this study is the development of the teacher as a professional. Throughout the study, teachers often wondered how becoming a charter school would affect them and their role as educators. In the beginning, emphasis was placed on teacher workload and even compensation for additional work. As the study progressed however, many of these original concerns were set aside and replaced by comments about teaching methods in environmental education and the goals and definition of environmental education itself. The following discussion more fully describes this development of the teacher from being concerned internally to becoming intrinsically motivated for the betterment of the facility.

During the first year, there were many educator comments about how becoming a charter school was affecting workload. Many teachers felt concerned about the charter school process both personally and in terms of their students. An example is in Proposition 60, “(I) Feel like I’m putting more into my job than my family, that’s not right”. Other comments included statements such as “One more thing to fit into our
schedule” (Proposition 54) and “This seems to involve even more meetings and time involved activities” (Proposition 81). In addition, some individuals were also concerned about the effect all this extra time out of their classroom would have on their students. “I see a lot of teachers out of their classrooms for meetings, leaving subs to do their teaching (Proposition 93),” said one teacher in regards to this issue.

During year one teachers were also uneasy about how this new focus would affect their job responsibilities and their role as a teacher. In the category titled, Affect Job Responsibilities, teachers commented on whether or not compensation was necessary for this additional work with opinions on both sides. Some teachers felt that they were being under compensated for the additional meetings and workshops (Proposition 15). Still others felt that compensation wasn’t necessary for everything (Proposition 22). In another category, Affect Role as Teacher, teachers were concerned about what it meant to be an environmental educator. As one teacher pondered, “(You) truly want to present to students things you want to promote but not totally advocate (Proposition 26)”. Still another cautioned that the JEDC was “not a school of environmental educators (Proposition 33)”.

Considering their role as a teacher/educator was also a category in year two. As teachers began to learn more about environmental education and its practices, they also started to think about the balance between advocacy and education. This idea was reflected on quite often during the curriculum institute. In at least three instances during the four day long institute, teachers grappled with Proposition 178, “You have to make sure you teach the other side, balance between environmentalist and educator”. Teachers also began to look at their own teaching perspective in what they believed was the true
role of an educator. Stated one teacher in Proposition 169, “Teachers should be providing students with the tools to become life-long learners by emphasizing how to learn rather than what to learn”. By using the environment and real world examples, teachers were being given an opportunity to “provide our students with the tools and the understanding” (Proposition 182) for solving environmental issues.

Alongside the development of their role, teachers were also investigating two other categories that materialized from the data, What is Environmental Education? and Teacher Practices in Environmental Education. In the first category, What is EE?, teachers were exploring the definitions of what is and is not environmental education. For example, some teachers were trying to determine if using the outdoors demonstrated good environmental education. Stated in Proposition 172, one teacher said, “(I) use the outdoor site, that's a very big thing for me in environmental education”; while another counteracted this with Proposition 175, “I don't think just going outside is doing anything”. Similarly teachers were recognizing the importance of environmental education in their daily curriculum (Propositions 168 & 184) as well as the values and emotions that can come along with exploring environmental issues (Proposition 186). In the second category of Teacher Practices in Environmental Education, teachers stated becoming more comfortable with outdoor activities, inquiry-based teaching styles and as stated in Proposition 171, “I also have increased the emphasis on product or action-based assessments for my students”.

Finally in the theme of the development of the teacher as a professional is the category of Teacher Needs. As the teachers continued to develop as professionals in environmental education, they began to identify and recognize their deficiencies. One
teacher wished she “had been an environmental education major!” (Proposition 124) while another thought more staff development would be beneficial (Proposition 136) during year two. Even in discussing the need for more storage (Proposition 160), it’s notable that no longer were teachers worried about compensation or their workload in year two; now there seemed to be more concern on the tangibles and practices of environmental education. The teachers were noticeably beginning to develop as professionals in the field of environmental education.

Theme 5: Perceptual Changes—Barriers and Concerns

The final theme revealed in this study is Perceptual Changes—Barriers and Concerns. As it might be expected within any change, there is often resistance and the JEDC was no exception to this phenomena. In this study, teachers encountered barriers and concerns throughout; what is noteworthy, however, is how these barriers and concerns underwent metamorphosis from year one to year two.

In year one many concerns existed over implementation and the intentions behind becoming an environmental charter school. One third of JEDC classroom teachers wondered in Proposition 53, “What does it really mean to be a charter? What will be expected?” Some teachers also feared that students would want to come to the JEDC with its new focus and open enrollment opportunities within the district, yet due to lack of space, these students could not be accommodated (Proposition 77). Still others worried about the intentions behind becoming the JEDC altogether; stated one teacher, “(This) Whole thing is backwards, first you should find the interested teachers, gather them together and then go from there (Proposition 50)”. Furthermore with budget cuts
prevalent throughout the state, some teachers felt that the only reason the JEDC became a charter at all was due fear of being closed (Proposition 30) and the incentives of the implementation funds from the state (Propositions 55 & 57).

Several teachers in year one were resistant and hesitant towards the charter altogether. A few comments include “Just another passing trend, taking away from the essentials in education, taking time and dollars from our students (Proposition 92)” and “Tremendous waste of time and money (Proposition 91)”. One teacher was hesitant because he/she did not feel that they had adequate training, “I do not feel prepared to teach EE in my classroom because I have not been trained and have not had the opportunity to look for appropriate materials (Proposition 78).” Finally in at least six data sources, the teachers and the principal stated that they felt overwhelmed and wondered if the JEDC had taken on too much (Propositions 14 & 87).

In year two the barriers and concerns demonstrated at the JEDC were fewer and of a different nature. During this time frame many teachers were concerned about time; time to explore all of the new resources (Proposition 112), time to plan (Proposition 118) and even time to do in depth study with their students (Proposition 119). Some teachers, more intensively involved in the process (particularly charter school steering committee members), also mentioned that they were wearing out (Proposition 113); possibly suggesting that teacher burnout and sustainability could be a concern in the coming years.

A new concern that emerged during year two involved parents comments regarding the curriculum and focus of the JEDC. Although primarily a supportive force, two surveyed teachers commented the following from parents. First Proposition 134, ”I have heard parents encouraged not to ‘choose’ JEDC because of their child’s difficulty
and dislike of outdoor activities”. Though enrollment numbers do not seem to be reflecting this concern, it still notable to hear this perspective from a parent. Likewise it seems the basics of curriculum are still an issue, “Some parents have concerns that some of our JEDC issues are overriding the basics of education (i.e. math, writing, reading)” (Proposition 130).

Finally, the only consistent concern throughout the entire process was that of money. Through the Department of Public Instruction (DPI) the JEDC had applied and received $350,000 to plan and implement their new school. As of the writing of this thesis, the JEDC had received the last implementation grant from the DPI. As such it is worth wondering as one teacher had, “What will happen when the money runs out (Proposition 51)?” Although a minor concern in year one (with only one data source), in year two three different data sources all ask the same question, “What will happen when the money can no longer support any updates? When the district makes cuts? (Proposition 105)”. Money may be an ongoing issue and concern for the JEDC.

Summary

In today’s world where change is common, it is of no surprise that many schools experience this phenomenon. As previously stated, in environmental education change has often been measured by looking at the student rather than the teacher. In this study however, the teacher and his/her experiences with transition in this EE were documented. As the Jackson Environmental Discovery Center went through the transition of becoming an environmental charter school, certain categories and themes emerged from the data. The five major themes uncovered were the Development of Curriculum, Importance of
Support and Involvement, Development of Teacher Empowerment and Ownership, Development of the Teacher as a Professional and Perceptual Changes- Barriers and Concerns. Throughout the process both the curriculum and the teacher seemed to evolve and mature. As this development occurred, support and encouragement were important to this growth both externally and internally of the JEDC. In addition, certain barriers and concerns surfaced as the teacher began to explore his/her role at an environmental charter school. Finally, and perhaps the most important, teachers developed a sense of ownership and empowerment throughout this study. The implications and recommendations from these data are discussed within the next chapter.
CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

Relationship of findings with literature

The comparison of literature to the results of this study suggests research parallels in topics such as charter schools, environmental education, educational change and leadership studies. In some cases minor comparisons can be made to literature, suggesting this topic is relatively unique to the findings of this study. The following describes these comparisons between literature and the overall themes and categories discovered.

Theme 1: Development of the Curriculum

When examining literature and the findings of this study regarding curriculum, some parallels exist. First many teachers during year one, felt that they would still be teaching the basics, that their curriculum would not change. Previous research conducted by Champeau, Peri, Lane, Quale, Rossow-Cunningham, Sivek, and Yockers (1997) offer a suggestion of why this may have occurred at the JEDC. In discussing why teachers were not infusing environmental education, the authors state, “Teachers, who were not infusing EE, reported the primary reason was that they perceived EE as being unrelated to their subject area (p. 18-19).” During the beginning of this study as teachers were wondering what it meant to be a charter school, many JEDC teachers, especially at the younger grade levels, saw little connection between being an environmental school and changing their curriculum. They could not see how environmental education related to their subject matter and therefore anticipated only teaching the basics.
Another discussion that emerged from the study was looking at how the curriculum would be integrated in all levels. The importance and success of this integration was documented by Liebermann and Hoody (1998) in their study, *Closing the Achievement Gap: Using the Environment as an Integrated Context for Learning*. "The outcome of this study demonstrated that these schools were effective because they broke down traditional boundaries between disciplines... (Lieberman and Hoody, 1998a, p.1).” Research suggested that in order for the JEDC to be effective they needed to consider integrating environmental concepts at all grade levels.

During year two, the strongest parallel between literature findings and the study exists in the category of Curriculum—Need to set specific competencies. A few teachers mentioned the importance of setting new competencies to adequately assess their students given the new environmental focus. In addition there was some discussion, particularly at the curriculum institute, on the importance of meeting the state standards and passing the fourth grade state assessment test. These concerns correspond with literature on assessment and accountability. “Charter schools must explicitly state measurable student performance objectives. These objectives usually meet at a minimum, existing state standards, but often go well beyond (Dunn, 1994)”. Finn, Manno, and Vanourek in their book, *Charter Schools in Action: Renewing Public Education* (2000), also discuss the reliance of charter school facilities on standardized tests. “Standardized tests are used by eighty-six percent of charters, state tests by seventy-five percent. Schools also use non-traditional formats such as student portfolios and other performance assessments to augment test scores”. Although the JEDC students are required by state law to take the traditional, state-wide assessment, Liebermann and Hoody (1998) offer hopeful results
for schools with an environmental focus and standardized testing. “Some significant benefits to EIC included better performance on standardized tests in reading, math, writing, social studies, and science.” Both literature and this study suggest that assessment is a viable and likely concern for teachers undergoing this process.

**Theme 2: Importance of Support and Involvement**

Literature also supports many of the findings of the second theme, the importance of support and involvement. As previously mentioned in Chapter 4, this large conceptual theme can be broken down into two supporting components, leadership and encouragement. Previous research strongly supports the role of both in implementing successful innovation.

Perhaps the most important component for schools undergoing change is having a strong leader. As one author points out, in order to plan for change, we need to be clear about the basic direction of schools by setting the overall tone. This tone is set by educational leaders within the school facility. “Leaders can do this by providing the kind of purposing that invites teachers, parents and students to help forge a compact that includes shared goals, values and standards in the form of operating principles (Sergiovanni, 1996, p.162)”. Staff at the JEDC first recognized the importance of this leadership externally. In Proposition 11, the principal was looking to the researcher for guidance. He made the analogy that as the JEDC was becoming an environmental school, he felt as though he was at a carnival with many opportunities for “rides”. The researcher and the university were the “tour guides” of this fair, making recommendations on what “rides” or perhaps more appropriately, practices and
directions, the school should undertake to embrace environmental education. In addition, with Proposition 146, a teacher commented on the role of the researcher in helping her set direction within her curriculum. Text suggests the importance of an outside change facilitator to complement internal leadership, “One result of our research has been the identification of a key second facilitator, who plays a very significant and complementary role to the principals (Hall and Hord, 1987, p. 6)”. The researcher primarily did this through professional development and modeling of environmental education competencies. This need for this is further supported through a study conducted in 1993 by Jennie Lane titled, *An assessment of Wisconsin teachers’ perceived competencies in, attitudes toward, and amount of class time devoted to teaching about the Environment*. In her study, Lane notes that to alleviate teachers feeling overwhelmed by the competencies needed by effective environmental educators, “it was suggested that teachers must receive support and education to provide them with the skills and competencies they will need to infuse EE concepts into their classroom (p. 7).” This was further supported in Proposition 136 (“More staff development would be beneficial”) at the JEDC.

In addition much has been written about the role of the principal when undergoing change. Hall and Hord (1987) commented on this in their book, *Change in Schools: Facilitating the Process*. “Throughout our years of research and experience, we have never seen a situation in which the principal was not a significant factor in the efforts of our schools to improve (p. 1)” . Another author also remarks on the role of the principal, “At the root of the principal’s role responsibility we find the roots of school leadership—a commitment to administer to the needs of the school as an institution by serving its
purposes, by serving those who struggle to embody these purposes, and by acting as a guardian to protect the institutional integrity of the school (Sergiovanni, 1996, p. 88)."

Data from the JEDC study complements these findings. In Proposition 157, the principal comments on his role, “has changed as a charter school principal. His job is to serve as a ‘buffer between the DPI and the teachers’”. He believes his job is to buffer teachers, to serve as a “guardian” as literature suggests between the state (DPI) and the charter facility. Above all, literature suggests that the principal is the “critical person making change happen (Hall and Hord, 1987, p. 45)”.

Another component suggested by text and this study as being vital to success is encouragement. This encouragement can come from within the facility itself or through external means. In Proposition 149, a teacher comments on internal support from the principal, “I believe he is one of the most supportive principals I’ve ever worked under and that his support is vital to the implementation of the JEDC.” This correlates with the following citation from literature, “The more supportive the principal was perceived to be, the higher was the percentage of project goals achieved, the greater the improvement in student performance and the more extensive the continuation of project methods and materials (Hall and Hord, 1987, p. 40)”. Other internal encouragement at the JEDC came from within the classroom walls via the students. As the students responded positively to outdoor and environmental activities (Propositions 25, 85, 107, 135), teachers were encouraged. Literature also suggests greater student performance and responsiveness to Environmental Education. Liebermann and Hoody (1998a) state the following impact of using the environment on students, “Some of these included better performance on standardized tests in reading, math, writing, social studies, and science; reduced
discipline and classroom management problems; increased engagement and enthusiasm for learning, and greater pride and ownership in accomplishments.” This increased student ownership was also mentioned in Proposition 133 of the study.

Finally, similarities can be drawn between the category Role of Partnerships with Community, and literature. At the JEDC, the importance of outside partnerships was constantly made reference to. From Proposition 128, “We would not be where we are today without the partnership we share with UWSP” to Proposition 164, “Three vital components of the success of the JEDC: staff, community and students”, the external support of the community and specifically, UWSP was important. Charter school research conducted by Hill, Lake, Celio, Campbell, Herdman and Bulkley (2001) also made reference to outside interests, however the authors caution charter schools about the equilibrium that must be found. “The study questioned if schools were able to balance their various audience needs while still providing effective teaching and learning to their students.” Although current outside interests seem to be encouraging, there may be a time in the JEDC’s future where they may not be as complementary.

Theme 3: Development of Teacher Empowerment and Ownership

The development of teacher empowerment and ownership is also a significant occurrence in literature and this research. To begin, research discusses the importance of influence and enthusiasm towards an innovation. According to Sergiovanni (1996), “In terms of influence, it appears that teachers are less influenced by management strategies and more influenced by what they believe, by what their peers believe and do and by other and more elusive cultural matters (p. 159-160).” In this study, eighteen data
sources in year one and twelve in year two all comment on the excitement that was/is present at the JEDC in Propositions 6 and 100. This excitement was infectious and spread throughout the peer relationships at the charter school facility. This teamwork was also described in Proposition 109, “We really worked together as a team to create worthwhile curriculum units” and Proposition 111, “I think there is less pressure and more teamwork going on, ‘more camaraderie’”. Liebermann and Hoody (1998b) also refer to an increased level of enthusiasm among school staff when using the environment, “Teachers and administrators at all forty study schools described consistent and significant growth in their own levels of enthusiasm and commitment to teaching. They reported that teaching in the context of the environment, in interdisciplinary teams, made them more enthusiastic about their work than they had ever been before (p. 71-72).” A final comment by the JEDC teachers further supports this, “I think more people are excited about the charter than before (Proposition 110)”.

Finally in the category of Teacher Empowerment & Ownership, references can be made between the findings of the JEDC and literature. As the JEDC study developed, teachers felt more empowered to bring about changes and more certain of their role within the innovation. One of the strongest data points in reference to this is in Proposition 159, “They (we) have gone from the “doers of the curriculum to the owners of it. If we don’t like it, it’s our fault and we can change it!” Literature also makes reference to the importance of teachers in improvement, “When undergoing change at a school, teachers are equally important as the principal for bringing about innovation. In addition, the change agent introduced often occurs at the classroom level, so teachers need to be supported and trained (Joyce, 1990, p. 72-79).”
Theme 4: Development of the Teacher as a Professional

As the JEDC study progressed, the teachers at the charter school began to develop and own the idea of becoming a professional in environmental education. At the beginning of this process however, not everyone was on board and many wondered how becoming a charter school would affect his/her job. As stated in Proposition 18, "(I'm) particularly concerned about the amount of work teachers will do" or Proposition 45, "(He's) not convinced and perhaps is concerned of what impacts there will be to his job", teachers feared the unknown. This attitude has been previously discovered through literature. According to Etheridge, Horgan, Valesky, Hall, and Terrell (1994), people resist change for several reasons, but common reasons include fear of the unknown, fear of unmet needs, fear of new learning, fear of losing control or autonomy and fear of vested interests. In addition, concerns exist as individuals tend to be comfortable with the status quo and uncertain about their role in the change process (p.138-139). This is also true when comparing this citation to another study category, Roles of staff—steering committee vs. non. Many of the non-steering committee member teachers felt that they were "not really part of the charter school process, as they're not on the steering committee" (Proposition 42) and therefore felt fear towards the innovation.

In addition, another category discovered by the JEDC study was that of the role of the teacher. Throughout this study, teachers were questioning this role, especially in terms of environmental education. Stated one teacher at the beginning of the study, we are "not a school of environmental educators" (Proposition 33). Yet as teachers began to learn more about EE, they started to embrace different beliefs. "First we must teach children to love the environment, before you can ask them to save it, and I think that's
really important (Proposition 176).” In addition, teachers also looked at who they should be in the classroom. “Teachers should be providing students with the tools to become life-long learners by emphasizing how to learn rather than what to learn (Proposition 169).” They were also examining their environmental education practices, looking at advocacy vs. education (Proposition 178) as they underwent development. Literature suggests the importance of developing a teacher. “The teacher’s role is central to improving the quality of learning for students. Teacher development is key because the quality of teachers’ understandings influence to a large degree what teachers do in classrooms (Sergiovanni, 1996, p. 140-141).” As teachers were developing into environmental educators, they did just that and changed their classroom methods to reflect this change.

The final parallel in this theme with literature exists in identified teacher needs. When asked what things the teachers still needed, a few commented that more staff development would be beneficial (Proposition 136). This mimics what literature states about what teachers need to conduct environmental education. “When these same teachers were asked what would influence them to teach about the environment, teachers identified in-service training and access to resources as key components they would need (Champeau, et al., 1997, p. 18-19).”

**Theme 5: Perceptual Changes—Barriers and Concerns**

When looking at the final theme, Perceptual Changes—Barriers and Concerns, much research has been conducted on the barriers to change and implementation of environmental education. One such research model is called the Concerns Based
Approach Model (CBAM). This model includes seven predictable stages that individuals undergo during change. When comparing these steps to the actual JEDC study, many similarities can be recognized.

According to literature in the first stage of CBAM, known as “awareness”, an individual has little concern. They believe that the innovation will not affect them and therefore they have little apprehension about it. In the JEDC study, this was demonstrated in both Proposition 66 “Still expect to teach basic curriculum” and Proposition 69 “Few teachers want to keep things the way they were”. As previously mentioned, many teachers particularly in lower grades didn’t feel that their curriculum would change. They’d still teach the basics and therefore the new focus of an environmental school did not affect them.

In the second stage of the CBAM, known as the “informational” stage, there is a general awareness and interest in knowing more about the innovation, but still little anxiety for it. This is exemplified in statements such as Proposition 58 “Concerned about getting everything done that needs to be done”. Teachers felt overwhelmed but still didn’t see the integration between charter school items and their every day lives. In year one it was common to hear Proposition 37, moaning and groaning about having to do "Charter school stuff”.

The “personal” stage is the third stage identified in CBAM. In this step, the individual is starting to understand the innovation’s relevance to their lives. Yet they are uncertain about the demand of the change, his/her inadequacy to meet those demands and his/her role within the change. This was a prevalent idea on year one, exemplified by categories such as Affect role as teacher and Affect job responsibilities. A specific
example is in Proposition 45, not convinced and perhaps is concerned of what impacts there will be to his job.

In the fourth stage, "management", the individual's attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Interestingly, in the fifth stage, focus leaves the teacher and shifts to the student. In the "consequence" stage, attention focuses on the impact of the innovation on students and an evaluation of their outcomes, including performance and competencies. These stages were both exemplified in the JEDC by the concern throughout the entire study period in the area of curriculum and how this new focus would affect students.

In the sixth stage, "collaboration", teachers are coordinating and cooperating with other staff members regarding the use of change. With the JEDC study, this is most obviously connected to the category, Outcomes of Collaboration. Teachers were excited about the increased communication and cooperation that was occurring within the staff.

Finally in the seventh stage, "refocusing", teachers explore more benefits of the innovation and may even suggest alternatives (Hall and Hord, 1987, p. 60). Although the teachers at the JEDC have not entered the final stage of the CBAM, there are possibilities in the coming years for such opinions to develop.

Another piece of literature that can be contrasted to the JEDC study is Environmental education in Wisconsin, are we walking the talk? A profile of environmental education in Wisconsin K-12 schools based on statewide surveys and assessments of students, teachers, curriculum coordinators and principals (Champeau, et. al, 1997). This study sought to determine the incentives or barriers that impacted the implementation of environmental education by Wisconsin teachers. Many teachers
reported that they felt they lacked a background in environmental education (p. 18-19). This strongly parallels with Proposition 78, “I do not feel prepared to teach EE in my classroom because I have not been trained and have not had the opportunity to look for appropriate materials”.

Another study conducted in Wisconsin, concluded that the competencies needed by effective environmental educators seemed to overwhelm teachers (Lane, 1993, p. 7). Throughout the JEDC study many teachers reported feeling overwhelmed and pondered if they had taken on too much (Propositions 87 & 123). In addition, one teacher exclaimed “I wish I had been an environmental education major!” (Proposition 124) These studies demonstrate similarity between the feelings of concern that many JEDC teachers went through and those discovered in other research conducted in Wisconsin.

**Implications for Environmental Education**

The results of this study demonstrate implications in many different areas, with an obvious one being the field of environmental education. This study looked at what occurred with a group of teachers as they found themselves employed at a school with an environmental focus. What sort of feelings did they experience? What sort of barriers did they encounter? Was there a progression or prescription to follow to allow these teachers the means to embrace environmental education school wide? Although the study period was short, merely eighteen months, there exist some emerging pieces of advice for environmental education professionals from it. This section of chapter five discusses the ramifications for the field.
First and perhaps most importantly, there does seem to be an order of significance to the five themes which surfaced from this study. Of all, two seemed to bring about the most acceptance of environmental education, Theme 3: Development of Teacher Empowerment and Ownership and Theme 2: Importance of Support and Involvement. Although care was taken to develop both simultaneously, each one will be discussed separately with its effects.

To begin with Theme 3, Teacher Empowerment and Ownership, empowerment is defined as to endow with an ability, to enable. It is clear to the researcher that once these teachers were empowered, particularly in year two, many existing concerns simply ceased to exist. Or as stated in Proposition 104, “At first it was often overwhelming, but ‘now it seems more workable’”. In year two teachers became “doers” (Proposition 159) at the JEDC. They had the opportunity to experiment and explore environmental education teaching methodologies and they were excited about what they were learning. As said in Proposition 46, (I’m) “beginning to explore this ‘environmental stuff’ and like it”; teachers were feeling in control.

This, therefore, raises the following question: how do environmental education professionals bring about such empowerment? One way, suggested by this study, is to give them the tools they need without dictating certain results. A good example is in the context of the JEDC curriculum. Once they became an environmental charter school, the JEDC teachers now had extensive control over what they were teaching. No longer was the curriculum coming from the state or even the district office, but rather from their own belief systems and values. In order to begin infusing environmental education, the teachers took a particular emphasis for each grade level. In grades one and
two, the focus was habitats and insects; grades three and four, trees and birds; five and six, prairies and wetlands. These topics were self-selected by the school rather than dictated by “experts” in environmental education. At first, it was difficult to see how these topics could be interrelated and lead towards the ultimate goal of environmental education, an environmentally literate and active citizenry. Yet by allowing the teachers the ability to have their own “special” topics, the field suddenly seemed more feasible. The teachers weren’t overwhelmed by content but now had something that they could cognitively wrap themselves around and learn about. Although the researcher and university were still involved, helping them to identify certain competencies within each area (Proposition 146), the teachers felt a sense of ownership in their curriculum.

Once the curriculum was established, many practices advocated by environmental education naturally emerged. For example, at the fifth and sixth grade level, the teachers began to explore a more holistic approach to their curriculum. Now instead of just teaching about the prairie in Science, they intend to use the prairie as an overarching theme in everything that they do. When they teach about body systems, they’ll use prairie animals; the scientific process, they’ll use prairie seed stratification. In addition at other grade levels, the teachers started to see that just inserting an environmental day once a month (as occurred in third and fourth grade) perhaps wasn’t enough. As stated in Proposition 179, “What we did with birds this year wasn’t really infusion—it was insertion”. Also teachers started discussing the importance of infusing environmental education into their daily curriculum (Proposition 168 and 184), a goal of every environmental education professional. Finally teachers began using real world, authentic topics to explore with their students. Stated a teacher in Proposition 141, “The staff and
students appear to be happily engaged in creative problem solving regarding EE issues. Both groups have gotten out of the classroom and into the constantly changing ‘real world’”. Although perhaps not reaching every sub-goal of environmental education, teachers at the JEDC were starting to naturally gravitate towards practices in EE.

In addition, by allowing opportunities for self initiated ownership and empowerment, different groups of teachers were engaged. According to author Richard Luecke in his book, Managing Change and Transition (2003), when introducing change individuals can be classified by their reactions using the following spectrum. On one end are the originators, or change agents. These individuals are those that embrace change at any cost. At the other end of the spectrum are conservers, or change resisters. Not perhaps surprisingly, these individuals generally resist change, especially if it is an extreme deviation from the norm. Finally in the middle are pragmatists. These individuals welcome change as long as they initiate or agree with it. They are perceived as practical, agreeable and flexible and prefer change that emphasizes workable outcomes (p. 70-78).

In this study, by allowing teachers the opportunity to develop a sense of ownership, to experiment with EE and to become empowered, all three types of individuals were affected. The originators already had buy-in but now the pragmatists, those that were originally apprehensive as stated in Proposition 68, “I have some reserves about the changes, but am also excited about them”, also bought into the process. Even those who were perhaps perceived as conservers in year one, began to experiment in year two. This initial resistance was eliminated so much that in year two a teacher commented, “Staff is in total ‘buy-in’ (Proposition 143).” This is extremely important to
the field, as there are always teachers who can understand and gravitate naturally towards environmental education. Yet through this process of empowerment and experimentation, not only were they involved but also individuals that were traditionally left behind.

Another key component to developing this school was Theme 2: Importance of Support and Involvement. Throughout this study, the university and particularly the researcher offered support and content in environmental education. Rather than simply coming in and leading, the researcher spent a great deal of time listening and developing rapport. She often stated to the teachers that this “was their school, not hers” and as such, she was merely supporting them through their development. This was in stark contrast to another individual from the university who came in with definite ideas for improvement. Although her motives were noble, the teachers rejected many ideas that she offered. Thus, this study suggests that putting in significant time to develop rapport is vital to the successful integration of environmental education in formal education settings. The researcher began the study feeling awkward as an outsider (Proposition 8) and ended being welcomed and considered one of the staff (Proposition 155). This was largely due to the amount of time given to the JEDC; therefore suggesting that for EE professionals to be successful in formal education, a significant amount of time must be invested.

Another type of support given to the teachers in this study was training in environmental education practices. Throughout the study, EE professionals conducted seminars on topics as varied as prairie ecology to composting. Each of these topics was in direct correlation to what the teachers had decided to cover within their curricula. The
only professional development strongly suggested by outside experts was in the content of what environmental education was. This was done to ensure a shared understanding, language and professionalism within the faculty and staff. Teachers felt that what they were given was what they had requested and as such saw strong relevance to the workshops offered. Thus, professional development workshops should mirror identified needs versus perceived ones.

One caution for the field that can be suggested from this study is that when offering EE support to schools, it’s important to establish oneself as being available for assistance without becoming a crutch for implementation. During this study, the researcher saw herself as a “safety net” for JEDC teachers. Although she did not work with every classroom, she was available for consultation and could offer resources when requested. Moreover, she concentrated on working with the teachers rather than the students. This support allowed empowered teachers to have access to a resource yet not to use the researcher as a crutch for classroom implementation. Few school districts are as fortunate as the Stevens Point School District to have an Environmental Education Coordinator. Thus many rely on external, day use and residential environmental education facilities to conduct their environmental education curricula for them. In addition, most partnerships between environmental education professionals and formal educators have a limited time frame. Therefore, an implication from this study for the field is to discover how a paradigm can be created where EE professionals can give teachers the tools and support they need to implement environmental education in their classrooms rather than to simply do it for them. Although the intention was to
create this at the JEDC, it will be interesting to see what develops once the researcher, and thus the "safety net" is gone from the school facility.

Implications for the Development of Charter Schools

Another area that has relevance to this study is the development of charter schools. As new charter schools are being developed within Wisconsin, two options exist, conversion and start-up schools. Conversion charters are those that are "instruments" of a school district, which were previously traditional public schools. Their staff are district employees and hence part of a union, covered by union rights and benefits. Start-up charters are quite different, with the facility itself not being a part of a school district and the staff not unionized or state employees. Although each has benefits and drawbacks, the suggestions presented here more aptly apply to conversion schools. Start-up facilities may also glean advice though they may not encounter the same challenges. This study demonstrates ideas for conversion schools in areas such as shared vision, curriculum, administrative support, and outside involvement.

When the researcher originally became involved with the study, she was disheartened to learn why the school had become a charter altogether. Rather than seeking to embrace a new methodology (environmental education) as the best way to teach students, the school gave reasons such as fear of being closed (Proposition 30) and that a previously created (through rejected) charter school application was used as a foundation for the development of the JEDC. As such, many teachers felt conflicted by the intentions of their charter. For example, "The whole thing is backwards, first you should find the interested teachers, gather them together and then go from there..."
(Proposition 50)" and "(We) saw a pot of money and went for it, versus planning first
(Proposition 55)". Therefore during the first year, it was difficult for the JEDC to come
together as they lacked a shared vision. When the researcher asked in June of 2003 (six
months into their first year implementation), "In the year 2010 how will a graduate from
the JEDC differ from one who graduates today?" teachers and staff had varying
responses. Thus, establishing a shared vision early on is an important implication from
this study. If the teachers have an opportunity for buy-in, the assumption is there will
also be less resistance. Rather than waiting a year for teachers to feel a sense of
accomplishment and collaboration, the charter school can begin with this attribute.

Another suggestion from this study for charters is to begin by looking at
\textbf{curriculum}. Throughout the entire JEDC study, curriculum was a major topic of
discussion. Before the first year of implementation limited dialogue on curriculum had
occurred. As such during year one, teachers at the JEDC felt frustrated by things such as
the "stealing" of curricular topics between the grade levels. If a school can begin by
examining their curriculum and establishing learner objectives, much of the concerns
originally expressed through this study could be eliminated. This recommendation can
be further demonstrated through the curriculum categories that emerged in year two
versus year one. In year one, curriculum concerns focused around items such as conflict
over the ownership of material, curriculum change, and discussion on the origins of the
curriculum itself. Yet in year two, after the summer curriculum institute, curricular
discussion focused on timing, infusion and specific competencies. Consequently by
starting with curriculum, perhaps new charter schools can begin with the curricular
concerns demonstrated at the JEDC in year two rather than year one.
A third implication for charters is to **solicit strong administrative support.** The role of the principal in this study was a consistent subject in year one and year two. During the first year, although the principal did not have a clear idea of how to lead the JEDC, his support was vital nonetheless. He gave teachers opportunities to purchase materials, attend professional development workshops and time/compensation to collaborate within their grade levels. In the second year, he hired staff that specifically aligned with the new school philosophy and his support was recognized by many teachers as being vital to the success of the JEDC (Proposition 149). Without this support, it is difficult to imagine a successful outcome at this charter facility.

A final recommendation from this study is to **encourage support from outside of the building.** In both year one and year two of the JEDC project, support external to the organization was recognized as being a vital component of their success. In year one, much of the support came from the university and the researcher. Teachers felt that they will (would) be a "better teacher" because the researcher was present; the school will (would) be a better place (Proposition 36). In year two, this support expanded beyond the university to also include other charter schools in the district and parents; stated the principal in Proposition 150, “It is so important to have parent support—this could not have happened without them”. Finally, it makes sense to involve outside individuals to promote the sustainability of the new school. As teachers who are heavily involved become burned out, the school can rely on external support and expertise for their emerging needs. In addition by extending connections to the community, new charters may also find sources of funding, another consistent concern throughout the development of the JEDC.
Recommendations for the Jackson Environmental Discovery Center

Certainly one would be amiss in this study, to offer recommendations and implications to charters and EE, without also offering recommendations to the case studied itself. Based on the year and half of study, the researcher offers six recommendations and considerations to the faculty and staff at the JEDC.

First of all, a recommendation can be made to consider how new teachers will be inducted into the new philosophy and vision of the JEDC. As it took almost a year to establish a common view of the outcomes of the JEDC, time and energy should be spent thinking about how new teachers will be introduced and initiated into the charter school philosophy. This could include exploring their philosophy of environmental education, sharing the new curriculum and discussing the governance structure of the JEDC.

A second recommendation that can be made is to encourage student involvement in the development of the JEDC. Although students have been involved in the implementation of the charter, they have not had many opportunities to make suggestions for its development. Recently, there has been discussion among the upper grade level staff to offer a capstone portfolio project for sixth graders at the school. Perhaps these projects will provide a much needed mouthpiece for the students to understand their role in the development and implementation of the JEDC.

A third suggestion to the staff is to revisit the Science and Environmental Education curriculum. This curriculum was designed to be a working document, something that could be changed and modified throughout the year. Now, after a year of implementation, time and energy should be spent by K-6 teachers to reexamine the
curriculum and make it truly representative of what was done in their classrooms. This should perhaps be done before new content areas such as Social Studies are explored.

In addition to recommendations, several considerations are also offered to the JEDC staff. First, it is worth spending some time thinking about how they will sustain their staff throughout the charter school development. As one might expect, some teachers were more intimately involved in the JEDC development than others. Some of these teachers, as is echoed in Proposition 113, “I’m wearing out”, are starting to feel burned out by their extensive involvement. Care should be taken to find ways to reenergize and sustain these teachers while continually developing other teacher leaders to support them.

A second consideration is to determine what will happen when the money (from the DPI) is gone. How will this affect the development and continuation of the school? Throughout the study, money was mentioned as a concern. Staff and administration should continue to explore new forms of revenue such as grants to continue the professional development and maintenance of their site.

The final consideration suggested by the researcher is to think about how they will sustain themselves without an onsite environmental education “consultant”. Throughout the study the researcher served many roles including “tour guide” (Proposition 11), project assistant and professional development consultant. Due to the limitations of this study (and researcher funds!), the researcher will no longer be able to provide ongoing support in environmental education for the JEDC staff. Therefore, the staff should seek other forms of external support including student teachers and UW-Stevens Point. Finally, they also should consider how to best utilize and develop the
Environmental Education Intern position, by possibly including duties the researcher performed in the intern job description.

Recommendations for Future Research

During this study many ideas for future research materialized. Some focus specifically on the Jackson Environmental Discovery Center and its outcomes. Still others investigate the larger phenomena of charter schools within Wisconsin and beyond. This final section explores all of these questions and suggests ideas for continuing research.

When looking within the JEDC, several future research inquiries can be uncovered. First, the findings of this study could be extended for a much larger time period. As the researcher was confined due to graduation limitations, she was only able to study this population for eighteen months. But the implications from this study only begin to reveal teacher attitudes towards becoming an environmental charter school. What would be interesting would be to further explore this population over a longer time, to come back within five years and see if some of the original and emerging concerns of this study still exist. It would also be worth investigating the JEDC personnel themselves. Are teachers who have been a bit resistant to the process still at the JEDC or have they transferred to another school in the district? Are teachers from other schools in the Stevens Point School District still interested in becoming part of the JEDC staff, why or why not? Is the principal still present with his commitment and support of this methodology? If not, has that affected the charter school? How has the school reacted to the loss of the researcher, or other outside support in environmental education? Has the
charter itself been revoked or extended? How are they passing along this methodology to new teachers who are becoming part of the staff?

Another topic area to further examine at the JEDC is the curriculum. When this study was completed, only the discipline of Science had been examined to look for infusion with Environmental Education. But an appealing question would be to look at whether or not the curriculum had permeated into other disciplines. If so, who had initiated this process, the staff or an outside consultant? Is a more holistic approach being embraced school-wide?

In addition, how have the students been impacted by this curriculum? Although the study did not look at this audience, the fifth grade students at the JEDC have been given an environmental literacy test to establish a baseline for such a comparison. Furthermore, do these students attend other environmentally-focused charter schools within the district such as Education for Sustainable Development at the high school level? Also how do these students perform with other students in the district when they attend the same middle or high school? How or are they different when they graduate from the JEDC versus another elementary school within the Stevens Point Area School District?

Finally larger questions could be addressed within the charter school community itself. For example, what happens when or if state/federal funding for establishing charter schools is eliminated? Will this growing trend for new charter school facilities continue? Also why is it that certain school districts (i.e. Stevens Point, Eau Claire, La Crosse) within the state seem to gravitate towards establishing charter schools? What are the benefits and drawbacks of such a strategy? Furthermore, do other
environmental charter schools experience the same concerns as the JEDC? Can this model be replicated elsewhere? How are these concerns or needs different between conversion and start-up facilities?

Conclusion

At the true heart of any research are questions. As perhaps it is meant to be, the study at the Jackson Environmental Discovery Center evokes far more questions than those that were answered from this study. Even so several implications of this research can be discovered and discussed. First, strong parallels can be drawn from the literature and this study. Secondly, implications and suggestions can be made to the field of environmental education and charter school facilities. Thirdly, still more questions can be raised to guide further research. This research answers only part of the puzzle of environmental charter school facilities and their personnel. It begins to touch on the fact that environmental charter schools are a personal and evolutionary process. It starts to examine the teacher as a key change agent and his/her evolution towards becoming an environmental educator. It looks at the importance of support structures and the roles that universities and other EE institutions can have in the development of these facilities. Finally, it examines some of the tangibles (such as curriculum) that must exist within successful charter school facilities.

Ultimately though, more questions are still present. Perhaps as it is in studying the planet, environmental charters offer more of an opportunity to question than to find answers. Many naturalists would state that it is in the questioning process that one learns, and at the heart of any good educator is inquiry. As one author states, “It is much more
educational to make history than to read about it, far more educational to participate than to be passive. The forests speak out, the ocean beckons, the sky calls us forth, the plants want us to share their story, the mind of the universe is open to all of us, the planet wants to instruct. Educators through their methods and their content, can either open wide open the door to this wonder or narrow the doorways to offer a partial view which they can then control. Each answer to a question should call up other questions and ultimately “Why?”—which can never be answered—will continue to allure us and bring us anew in to the circle (LePage, 1987, p. 180). This study is only the beginning of this quest and was meant to begin with wonder...where it leads, is still unknown.
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Appendix A- Institutional Review Board Proposal
University of Wisconsin-Stevens Point
Institutional Review Board for the Protection of Human Subjects

Protocol for Original Submissions

A complete protocol must be submitted to the IRB for approval prior to the initiation of any investigations involving human subjects or human materials, including studies in the behavioral and social sciences.

Send: 10 copies of (1) the completed protocol; (2) project abstract; and (3) samples of informed consent forms to the IRB chairperson. PROTOCOLS LACKING ANY ONE OF THESE THREE ELEMENTS WILL NOT BE APPROVED. In addition, copies of questionnaires or interview questions MUST be attached.

PLEASE TYPE
Project Title: ____________________________________________

Principal Investigator: Emily Jacobs

Department: College of Natural Resources Rank: Graduate student

Campus Mailing Address: Grad student mailbox-Jacobs

Telephone: 343-5344 E-mail address: ejaco931@uwsp.edu

Faculty Sponsor (if required): Dr. Dennis Yockers
(Faculty sponsor required if investigator is below rank of instructor.)

Expected Starting Date: January, 2003 Expected Completion Date: March, 2004

Are you applying for funding of this research? Yes X No

If yes, what agency? ____________________________________________

Please indicate the categories of subjects to be included in this project. Please check all that apply.

X Normal adult volunteers ________ Minors (under 18 years of age)
____ Incarcerated individuals ________ Mentally Disabled
____ Pregnant women ________ Other ______________________ (specify)

(Faculty Member) I have completed the “Human Subjects Protection Training” (available at http://www.uwsp.edu/special/irb/start.htm) and agree to accept responsibility for conducting or directing this research in accordance with the guidelines.

(Signature of Faculty Member responsible for research)

(Department Chair or equivalent) I have reviewed this research proposal and, to the best of my knowledge, believe that it meets the ethical standards of the discipline.

(Signature of Department Chair or equivalent)

************************Do not write below this line – for IRB use only***************************
Proposal Abstract

Write a brief description of the purpose of the proposed research project. (100-200 words)

This project is being conducted to determine perceived attitudinal changes among the faculty and staff at Jackson Elementary School in Stevens Point. This study will be conducted as this traditional public school makes the transition into an environmental charter school, opening in Fall, 2003. This project will seek to assess attitude changes, using field observations throughout this time frame and two sets of interviews. These interviews will be conducted in early Winter, 2003 and Spring, 2004. Additionally, a survey will be sent to environmental charter schools across the state of Wisconsin to identify challenges and successes of environmental-based schools across the state.

Please complete the following questions for all research.

1. Describe the characteristics of the subjects, including gender, age ranges, ethnic background, health/treatment status and approximate number.

   Overall approximately twenty teachers and staff from Jackson Elementary will be interviewed. These interviewees are all professional adults, approximately aged 22-65, primarily of white ethnic origin. Most of the identified individuals are female classroom teachers, with their own classrooms.

   Within the statewide charter school survey, approximately 5-10 schools self-identified as environmental-based schools will be assessed. The Wisconsin Department of Public Instruction has recognized these schools as charter schools and surveys will be administered to school administrators or the equivalent if one does not exist.

2. Indicate how and where your subjects will be obtained. Describe the method you will use to contact subjects.

   The subjects selected for Jackson Elementary are staff at Jackson that fall within three categories: time period employed at Jackson Elementary (less than 3 yrs. vs. 3+ years), subjects involved in the charter school process vs. those who are not, and subjects currently conducting environmental education within their classroom vs. those who are not. Subjects have been categorized based on the knowledge of the school principal and will be contacted via letter to determine interest. Subjects interested in being part of the study will volunteer to be interviewed.

   For the statewide survey, the list of schools identified as environmental charters will be obtained from the WI DPI. Letters of interest will also be sent out to those eligible and the survey administered to those who volunteer.

3. What are you going to ask your subjects to do (be explicit) and where will your interaction with the subjects take place?

   Subjects at Jackson will be asked to be interviewed for approximately a half an hour in January, 2003 and then again in Spring, 2004 to assess attitudinal change. Subjects may also volunteer to have the researcher observe or teach their classroom at Jackson. All interactions with subjects of Jackson Elementary will take place on school grounds.

   The statewide charter school survey will be sent out via electronic or regular mail. Follow-up may occur (if the participants so choose) at the Wisconsin Charter School Association State Conference in March 2003, as participants will be invited to attend a focus group discussion on survey results. In addition, participants can request survey results once assembled.
4. Will deception be used in gathering data? Yes _____ No ____
   If yes, describe and justify.

5. Are there any risks to subjects? Yes _____ No ____
   If yes, describe the risks (consider physical, psychological, social, economic, and legal risks) and include this description on the informed consent form.

6. What safeguards will be provided for subjects in case of harm or distress? (Examples of safeguards include having a counselor/therapist on call, an emergency plan in place for seeking medical assistance, assuring editorial rights to data prior to publication or release where appropriate.)

   The subjects at Jackson Elementary will be given a copy of the interview transcript to proof before transcript is considered final. Additionally, subjects will remain anonymous within the study and will be offered a copy of the final report/thesis.
   Statewide, data gathered from the survey will remain confidential and anonymous, only revealing overall trends not specific to one facility.

7. What are the benefits of participation/involvement in this research to subjects? (Examples include obtaining knowledge of discipline, experiencing research in a discipline, obtaining course credit, getting paid, or contributing to general welfare/knowledge.) Be sure to include this description on the informed consent form.

   The benefits for the subjects involved at Jackson Elementary will be opportunities to be personally see how their attitude changes by comparing their responses in a pre-charter school implementation vs. current implementation interviews. Information on how the subject answered during one interview vs. another will be available to that subject, if they so desire. Additionally, subjects at Jackson will have the benefit of knowing a long-term study of attitudinal changes of a environmental charter school has not been done in Wisconsin.
   For statewide charter schools, the benefits of being part of this study will be an opportunity to learn and share successes and pitfalls of charters across the state.

8. Will this research involve conducting surveys or interviews? Yes ____ No ______
   If yes, please attach copies of all instruments or include a list of interview questions.
   See attached interview questions for staff survey at Jackson Elementary.

   The instrument used to assess Wisconsin charters has not been developed at submission. (Once this is developed, it will be submitted along with the informed consent form to the IRB for approval)

9. If electronic equipment is used with subjects, it is the investigator’s responsibility to determine that it is safe, either by virtue of his or her own experience or through consultation with qualified technical personnel. The investigator is further responsible for carrying out continuing safety checks, as appropriate, during the course of the research. If electronic equipment is used, have appropriate measures been taken to ensure safety? Yes _____ No ______

   Not applicable.

10. During this research, what precautions will be taken to protect the identity of subjects and the confidentiality of the data?

   Interview respondent's identity will be anonymous and coded by letter for interview comparisons.
   Charter school survey respondents will have the choice to identify themselves or remain
anonymous and any returned surveys will also be kept in Dr. Yockers’ office in the locked cabinet.

11. Where will the data be kept throughout the course of the study? What provisions will be taken to keep it confidential or safe?

Tapes & transcripts from Jackson Elementary interviews will be kept in the locked file cabinet in the office of Dr. Dennis Yockers, faculty advisor to the researcher. Additionally, surveys from statewide charter school study will be kept in Dr. Yockers locked cabinet.

12. Describe the intended use of the data by yourself and others.

The data from the interviews will be used to identify attitudinal changes within surveyed teachers.

The data obtained from the charter school survey will be used to identify general successes and challenges of becoming an environmental based charter school in Wisconsin. These data will be shared in a focus group discussion at the Wisconsin Charter School Association State Conference in March 2003.

13. Will the results of the study be published or presented in a public or professional setting?

Yes ___ X ___ No ______

If yes, what precautions will be taken to protect the identity of your participants? State whether or not subjects will be identifiable directly or through identifying information linked to the subjects.

Subject identity of the Jackson School interview process will be anonymous, as individuals will be assigned a letter as identification. In the final publication, care will be taken to eliminate any information that might identify a particular teacher.

Within the charter school survey, participants will not be identified in their returned survey unless they so desire. The final statement on the survey will ask the participants if they would like to be involved in a focus group discussion of the results. If so, they will need to identify themselves and give the researcher an address.

14. State how and where you will store the data upon completion of your study as well as who will have access to it? What will be done with audio/video data upon completion of the study?

Once I have defended my thesis any data will be destroyed using the appropriate methods. For example, interview transcripts and charter school survey responses will be shred, any electronic mail correspondence will be deleted.

A completed protocol must include a copy of the Informed Consent Form or a statement as why individual consent forms will not be used. Revised form: January 2001
15. Please identify personnel assisting in conducting this research project. Include students or others who will be carrying out or directly supervising the carrying out of the research.

Name: 
Position: 
Campus Phone: 
Campus Address: 

Name: 
Position: 
Campus Phone: 
Campus Address: 

Please note: Everyone having contact with human subjects must have reviewed the “Guidelines for Human Subject Research” (available at http://www.uwsp.edu/special/irb/start.htm). The principle investigator assumes responsibility for insuring this requirement has been met.

16. Complete the section below if you will obtain access to all or some of the subjects through cooperating institutions not under the University of Wisconsin's control. Use the following format for each institution with responsibility for human subjects participating in this activity:

Name of official: Paula Crandall-Decker 
Title: Charter School Consultant 
Phone: (6080-266-3390 

Name and address of institution: Wisconsin Department of Public Instruction, 126 South Webster Street, P.O. Box 7841, Madison WI 53707-7841 

Subject Status: (wards, residents, employees, patients, etc) registered as charter schools with WI Dept of Public Instruction 
Number of subjects: 5-10 (depending on current #s) 
Age Range of subjects: unknown age of school administrators, most often between 20-60 yrs of age.

17. If subjects from another institution are involved, and approval was obtained from a legally constituted IRB at that institution, please attach a copy of the approval. (Please note that this does not release you from the obligation to obtain approval from the UWSP IRB for Human Subjects.)

Per a discussion the researcher had with Paula Crandall-Decker on November 5, 2002 if the research proposal receives approval from UWSP IRB, the researcher can have access to environmental charter schools in Wisconsin.

A completed protocol must include a copy of the Informed Consent Form or a statement as why individual consent forms will not be used.
CONSENT FORM – JACKSON ELEMENTARY SCHOOL EMPLOYEES

Informed Consent to Participate in Human Subject Research

Emily Jacobs, a graduate student at the University of Wisconsin-Stevens Point, and Dr. Dennis Yockers, Elementary-Middle School Specialist of the Wisconsin Center for Environmental Education, are conducting a study on how Jackson Elementary School employees feel about the process of becoming an environmental based charter school known as the Jackson Environmental Discovery Center. We would greatly appreciate your participation in this study, as it will provide valuable information about the opinions, attitudes and feelings of staff at an established public school through the process of becoming a charter facility. This will help other schools interested in becoming a charter school understand internal changes within their facility.

As part of this study, we would like to interview you twice about your feelings regarding the transformation of Jackson Elementary to the Jackson Environmental Discovery Center. The first interview will be conducted in January of 2003, the follow-up interview in March of 2004. The resulting report will not associate your name with the answers you give. If the researcher should wish to use your name in a future article or report, she will contact you and gain your consent before using your name.

Although this study could use questionnaires or surveys to collect the data, we feel that speaking with you personally is the best way to learn about the experiences you have had and are experiencing. With your permission, the interview will be audio-recorded and transcribed at a later date.

The study will pose no risk to you other than the inconvenience of the extra time required for you to answer the questions.

For the purpose of the study, your interview tape and transcript will be lettered so that your name will not appear anywhere. No information about you will be released to any one other than yourself and publication or presentation of the study data would in no way identify you as a participant. Only Ms. Jacobs will have access to the audiotapes and the names associated with the letters. This information will be kept in a locked file cabinet at the University and destroyed at the end of the study.

If you wish to withdraw from the study at any time, you may do so. Any information that you provided up to that point would be destroyed.

Once the study is completed, you may receive the results of the study. If you would like these results, or if you have any questions in the meantime, please contact:

Emily Jacobs
College of Natural Resources
University of Wisconsin – Stevens Point
Stevens Point, WI 54481
(715) 343-5344
sjaco931@uwsp.edu

If you have any complaints about your treatment as a participant in this study, please call or write:

Dr. Sandra Holmes, Chair
Institutional Review Board for the Protection of Human Subjects
Department of Psychology
University of Wisconsin – Stevens Point
Stevens Point, WI 54481
(715) 346-3952

Although Dr. Holmes will ask your name, all complaints are kept in confidence.

I have received a complete explanation of the study and I agree to participate.

Name _____________________ Date __________________

(Signature of subject)
Dear ____________,

As a teacher at Jackson Elementary, you are no doubt aware of the school’s application and acceptance by the Wisconsin DPI to become a charter school next year. This school, the Jackson Environmental Discovery Center (JEDC) will have three main emphases, environmental education, technology and career education. Recent research indicates that students learn more effectively with an environmental-based context. Students involved in these programs become enthusiastic, self-motivated learners. They perform better in reading, writing, math, science and social studies. We know how students fare in these environments, but little research has been done of the teachers within these schools.

As your school continues its development of the JEDC, many outside partners have been contacted. One such group is the students and faculty at UW-Stevens Point. Faculty has served on your steering committee and UW-Stevens Point graduate students have conducted professional development workshops. Additionally, I have received your principal’s permission to conduct my graduate work at Jackson, conducting a study of the school climate and overall transition to an environmental-based school. As such, I am interested in conducting interviews with teachers over the next two years. You have been selected from the Jackson staff, due to various criteria, to be one of the individuals possibly interviewed.

Should you agree to be part of this process, the interviews will be conducted over the next few weeks and last approximately a half an hour. The questions will relate to your overall knowledge of environmental education and thoughts on the JEDC. All data collected will be kept confidential.

This letter is intended to be an inquiry of your interest and willingness to be interviewed for this study. Please fill out the following form below and return it to Mr. Coffman by January X.

Thank you in advance for your consideration to be part of this exciting study!

Emily Jacobs, Program Assistant for Jackson Environmental Discovery Center

Please fill out the following form below and return it to Mr. Coffman by January X.

Name ______________________

☐ Thank you, but I am not interested in being interviewed.

☐ I would be happy to be interviewed as part of this study (please fill out below)

I am available to be interviewed the following times (check all that apply):

January X: ___ 4:00-4:30 ___ 4:30-5:00

___ I am also available during my prep time at: ______________________

January X: ___ 3:35-4:00 ___ I am also available during my prep time at: ________

January X: ___ 8:00-8:30 ___ 8:30-9:00

___ I am also available during my prep time at: ______________________

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Appendix B- Field Note Observation Criteria

1. Who appears to be “in control” of this meeting? (i.e. who is spending the most time talking? Who is running the meeting?)

2. What is the main purpose of this meeting? (Information sharing? Accomplishing certain tasks?)

3. What are the main points of this meeting?

4. Who is at this meeting? How much are they involved? (a.k.a. how much are they contributing and making decisions? (locus of control question))

5. What are my perceptions and observations of this meeting?
Appendix C-Staff-wide Survey Year 1

January 6, 2003

Dear Jackson Elementary staff,

As a staff member at Jackson Elementary, you are no doubt aware of the school’s application and acceptance by the Wisconsin DPI to become a charter school next year. This school, the Jackson Environmental Discovery Center (JEDC) will have three main emphases, environmental education, technology and career education. Recent research indicates that students learn more effectively with an environmental-based context. Students involved in these programs become enthusiastic, self-motivated learners. They perform better in reading, writing, math, science and social studies. We know how students fare in these environments, but little research has been done of the teachers within these schools.

As your school continues its development of the JEDC, many outside partners have been contacted. One such group is the students and faculty at UW-Stevens Point. Faculty has served on your steering committee and UW-Stevens Point graduate students have conducted professional development workshops. Additionally, I have received permission from your district superintendent and school principal to conduct my graduate work at Jackson, conducting a study of the school climate and overall transition to an environmental-based school. As such, I am interested in conducting interviews and surveys with teachers over the next two years.

Enclosed in this packet of materials is the initial staff-wide attitudinal survey. All staff at Jackson should complete this survey and informed consent form. The survey itself should take about fifteen-twenty minutes to complete. Once completed, please return the survey and consent form to the survey box in the elementary school office.

As previously mentioned, all responses will remain confidential. Please respond honestly and openly to the enclosed questionnaire.

Thank you for your time and energy completing this survey. Your input is greatly appreciated!

Emily K. Jacobs
Project Assistant for the JEDC
Questions for Survey 1-- Jackson Environmental Discovery Center
January 2003

Thank you for participating in this case study of the JEDC. Please fill out the questionnaire below and feel free to use the backside of the page for any additional responses.

1. How many years have you been teaching at Jackson?

2. In total, how many years have you been teaching?

3. What grade or subject area do you teach?

4. Did you receive pre-service teacher training from a Wisconsin institution? If so, which one?

5. Did you receive training in environmental education teaching methods during your pre-service education?
   a. If yes, how many courses relating to EE teaching methods did you take?
   b. Do you feel that they prepared you to teach EE in your classroom? Why or why not?

6. How would you define environmental education?
7. Do you currently infuse environmental education in your classroom?
   a. If yes, in what subject areas?
   b. If no, what are some reasons why not?

8. What were your initial thoughts upon hearing that Jackson Elementary was applying to be a charter school with an EE focus?

9. What has your involvement been in the charter school process?
   a. If on the steering committee, what motivated you to be involved at that level?
10. How would you describe the climate/attitudes at Jackson Elementary this year in terms of becoming the Jackson Environmental Discovery Center?

11. Do you plan on teaching at Jackson next year, when it becomes a new charter school?

12. Do you have any concerns regarding the school change to the Jackson Environmental Discovery Center?

13. Do you think your teaching will change next year when the school is the Jackson Environmental Discovery Center?
   
   a. If yes, in what ways?

   b. If no, why not?
Appendix D-Staff wide Survey Year 2

January 12, 2004

Dear Jackson Elementary staff,

Welcome back and Happy 2004! My hope is that your break was festive and relaxing. As many of you most likely remember, I dispensed a staff wide attitudinal survey to you last January. This survey was sent to the entire JEDC staff and asked about your attitudes and feelings regarding the JEDC becoming an environmental school.

As some of you may be aware, I am in the process of wrapping up my research this spring with the intent to graduate in May. My research has been looking at the school climate and overall transition within the JEDC as it has/is transitioning to an environmental-based charter school. In an effort to measure this transition, I, as promised am enclosing a follow-up survey for you to complete. This survey is meant to measure your thoughts since the last time this survey was dispensed or more concisely, what occurred at the JEDC in 2003.

Enclosed with this letter is the previously mentioned follow-up survey. The survey itself should take about fifteen-twenty minutes to complete and all staff at the JEDC should complete it. Once finished, please return the survey to my mailbox. If possible, please return the survey by January 26th.

As it was last year, all responses will remain confidential. Please respond honestly and openly to the enclosed questionnaire.

Thank you for your time and energy completing this survey. Your input is greatly appreciated!

Emily K. Jacobs
Project Assistant for the JEDC
Questions for Survey 2—Jackson Environmental Discovery Center
January 2004

Please fill out the questionnaire below and feel free to use the backside of the page for any additional responses. Please reflect upon the last year (January 2003-2004) to guide your responses.

14. How would you define environmental education?

15. Do you currently infuse environmental education in your classroom?
   a. If yes, in what subject areas? How is it infused?
   b. If no, what are some reasons why not?

16. Have you used the Science and EE curriculum created last summer during this school year ('03-'04)? If so, how?

   How do you feel about what was created? Is it useful?
17. What has your involvement been in the charter school process since the last survey was dispensed?

   a. If you’re on the steering committee, what has continued to motivate you to be involved at this level?

18. How would you describe the current climate/attitudes at the JEDC towards being an environmental charter school?

19. Do you feel that your attitudes have changed during the last year concerning the JEDC—if so, how have they changed? What has attributed to this change? If not, why not?
20. What do you feel are some successes of the JEDC in 2003?

21. Do you have any existing or new concerns regarding the JEDC since the last survey was dispensed?

22. How do you feel about the partnership between the JEDC and the university? How might this relationship be enhanced?

Thank you for taking time to complete this survey. Please put your completed survey in Emily Jacobs' mailbox by January 26th. THANK YOU!
Appendix E—Propositions, Year 1

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1- They want their students to be &quot;environmentally literate&quot; and &quot;stewards of the earth&quot;.</td>
<td>M1, S10</td>
</tr>
<tr>
<td>P2- why are the K not more involved?</td>
<td>M1</td>
</tr>
<tr>
<td>P3- test scores as not being good indicators of success</td>
<td>M1, I1</td>
</tr>
<tr>
<td>P4- Clearly he cares a lot about what Dennis thinks and HIGHLY respects him—I wonder if even Dennis knows that?</td>
<td>M1, M5</td>
</tr>
<tr>
<td>P5- teachers seemed very positive on what has happened this year—their gripes were on things such as storage and want to do a school-wide thing at least once a month</td>
<td>M1</td>
</tr>
<tr>
<td>P6- Things seem to be very exciting</td>
<td>M2, M3, M8, M16, M19, D4, S1, S2, S15, S19, S33, S35, S38, S39, S40, S41, S42, S44</td>
</tr>
<tr>
<td>P7- &quot;looking around another tree for more opportunities.&quot;</td>
<td>M2</td>
</tr>
<tr>
<td>P8- awkward as an outsider</td>
<td>M3, M4</td>
</tr>
<tr>
<td>P9- The principal certainly portrays that he is in &quot;control&quot; with a clear sense of what is going on</td>
<td>M5, M17</td>
</tr>
<tr>
<td>P10- The principal seemed quite frazzled and unorganized</td>
<td>M6</td>
</tr>
<tr>
<td>P11- he doesn't know where this is heading. &quot;I'm the tour guide at the carnival&quot;.</td>
<td>M6</td>
</tr>
<tr>
<td>P12- some concern for the DPI concerns for the implementation grant</td>
<td>M7, M14</td>
</tr>
<tr>
<td>P13- feeling like he has to be two principals. One for the existing school and another for the JEDC</td>
<td>M10</td>
</tr>
<tr>
<td>P14- feeling overwhelmed (Teachers and Principal)</td>
<td>M10, M13, M19, S2, S19</td>
</tr>
<tr>
<td>P15- being under compensated</td>
<td>M10</td>
</tr>
<tr>
<td>P16- less concerned about demonstrating accountability</td>
<td>M11</td>
</tr>
<tr>
<td>P17- I'm developing more rapport</td>
<td>M12</td>
</tr>
<tr>
<td>P18- particularly concerned about the amount of work teachers will do</td>
<td>M13, S19</td>
</tr>
<tr>
<td>P19- critical about the charter school process</td>
<td>M14</td>
</tr>
<tr>
<td>P20- sort of principal who wants all staff buy-in.</td>
<td>M14, M23</td>
</tr>
<tr>
<td>P21- (non CSSC) teachers were feeling &quot;out of the loop&quot;</td>
<td>M15</td>
</tr>
<tr>
<td>P22- workshop participants don’t need to be reimbursed for everything</td>
<td>M15</td>
</tr>
<tr>
<td>P23- having environmental products as part of a fundraiser</td>
<td>M16</td>
</tr>
<tr>
<td>P24- its been so fun to connect with my child in that way (parent comment)</td>
<td>M16</td>
</tr>
<tr>
<td>P25- &quot;kids are so excited&quot;</td>
<td>M16</td>
</tr>
<tr>
<td>P26- Truly want to present to students things you want to promote but not totally advocate</td>
<td>M16</td>
</tr>
<tr>
<td>Key</td>
<td>Sources</td>
</tr>
<tr>
<td>-----</td>
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</tr>
<tr>
<td>P27- looking to him to solve the problems (principal)</td>
<td>M17</td>
</tr>
<tr>
<td>P28- &quot;stealing&quot; subject areas by teachers, i.e. &quot;We do birds in 5th grade, now the 3-4th grade teachers are doing it!&quot;</td>
<td>M17</td>
</tr>
<tr>
<td>P29- the curriculum seems to be coming from the top, down</td>
<td>M18, M20</td>
</tr>
<tr>
<td>P30- School became a charter is because there was fear that the school might be closed</td>
<td>M21</td>
</tr>
<tr>
<td>P31- difference between what the state needs and what we need</td>
<td>M22</td>
</tr>
<tr>
<td>P32- trying to set the vision</td>
<td>M23, M27, M28</td>
</tr>
<tr>
<td>P33- &quot;not a school of environmental educators&quot;</td>
<td>M24</td>
</tr>
<tr>
<td>P34- prairie will provide &quot;sense of ownership for the 5th and 6th graders, bring them back to see their siblings and the site.&quot;</td>
<td>M25</td>
</tr>
<tr>
<td>P35- being a part of the JEDC gives her a chance to have a &quot;bigger classroom&quot;--using the school and the outdoors more fully</td>
<td>M26</td>
</tr>
<tr>
<td>P36- will be a &quot;better teacher&quot; because I'm here; the school will be a better place.</td>
<td>M26</td>
</tr>
<tr>
<td>P37- moaning and groaning about having to do, &quot;Charter school stuff&quot;.</td>
<td>M27</td>
</tr>
<tr>
<td>P38- questioned why some parents are involved?</td>
<td>M27</td>
</tr>
<tr>
<td>P39- Initially we need to start small--not overwhelm the teachers</td>
<td>M28</td>
</tr>
<tr>
<td>P40- disconnect between &quot;the charter school things&quot; and what the teachers do day to day.</td>
<td>M28, O1</td>
</tr>
<tr>
<td>P41- &quot;embody two aspects of the partnership&quot; between the university and the charter school</td>
<td>M29</td>
</tr>
<tr>
<td>P42- not really part of the charter school process, as they're not on the steering committee</td>
<td>M29</td>
</tr>
<tr>
<td>P43- hard part will be keeping the basics for younger kids (as they have to teach them) while still teaching about the environment</td>
<td>D1, S8</td>
</tr>
<tr>
<td>P44- BSF idea was “killed” by district standards and rules</td>
<td>D1</td>
</tr>
<tr>
<td>P45- not convinced and perhaps is concerned of what impacts there will be to his job</td>
<td>D2</td>
</tr>
<tr>
<td>P46- beginning to explore this &quot;environmental stuff&quot; and liked it</td>
<td>D3</td>
</tr>
<tr>
<td>P47- I had been an incredible help this year</td>
<td>D5</td>
</tr>
<tr>
<td>P48- Our principal works hard, is great at follow through but not in setting the vision.</td>
<td>I1</td>
</tr>
<tr>
<td>P49- Without the JEDC and the infrastructure here, charter school would not have happened</td>
<td>I1</td>
</tr>
<tr>
<td>P50- Whole thing is backwards, first you should find the interested teachers, gather them together and then go from there</td>
<td>I1</td>
</tr>
</tbody>
</table>
### Appendix E—Propositions, Year 1 Cont.

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P51- What will happen when the money runs out</td>
<td>I1</td>
</tr>
<tr>
<td>P52- have to train our students how to think</td>
<td>I1</td>
</tr>
<tr>
<td>P53- What does it really mean to be a charter? What will be expected?</td>
<td>S3, S4, S5, S6, S8, S9</td>
</tr>
<tr>
<td>P54- One more thing to fit into our schedule</td>
<td>S3, S6, S7</td>
</tr>
<tr>
<td>P55- Saw a pot of $ and went for it, vs. planning first</td>
<td>S4, S7</td>
</tr>
<tr>
<td>P56- To utilize our outdoor area more is a great plan</td>
<td>S5, S11, S35</td>
</tr>
<tr>
<td>P57- Underlying motive for developing charter was money</td>
<td>S6</td>
</tr>
<tr>
<td>P58- Concerned about getting everything done that needs to be done</td>
<td>S7</td>
</tr>
<tr>
<td>P59- Too good to be true, waiting for the bomb to hit</td>
<td>S7</td>
</tr>
<tr>
<td>P60- Feel like I’m putting more into my job than my family, that’s not right</td>
<td>S7</td>
</tr>
<tr>
<td>P61- I see myself changing</td>
<td>S7</td>
</tr>
<tr>
<td>P62- I’ve done more with the outside area in the last few months than in my eight years here</td>
<td>S7</td>
</tr>
<tr>
<td>P63- What a great way to capture a child’s attention through a medium that they are already comfortable with</td>
<td>S9, S10</td>
</tr>
<tr>
<td>P64- concerned of how to implement this focus at all levels</td>
<td>S9</td>
</tr>
<tr>
<td>P65- If we add this to our curriculum, will something be subtracted?</td>
<td>S9</td>
</tr>
<tr>
<td>P66- Still expect to teach basic curriculum</td>
<td>S9, S18</td>
</tr>
<tr>
<td>P67- This focus (environment) will allow students who might not excel in regular academic classes to learn in a unique way</td>
<td>S10</td>
</tr>
<tr>
<td>P68- I have some reserves about the changes, but am also excited about them</td>
<td>S12, S14, S16</td>
</tr>
<tr>
<td>P69- Few teachers want to keep things the way they were</td>
<td>S13</td>
</tr>
<tr>
<td>P70- Prepare students to become informed decision makers as it relates to environmental issues</td>
<td>S15</td>
</tr>
<tr>
<td>P71- We have more sense of ownership</td>
<td>S15</td>
</tr>
<tr>
<td>P72- We will be more analytical as we develop the curriculum</td>
<td>S15</td>
</tr>
<tr>
<td>P73- Hope we are not evaluated too quickly</td>
<td>S15</td>
</tr>
<tr>
<td>P74- Hope this effort always works as a uniting rather than divisive force</td>
<td>S15</td>
</tr>
<tr>
<td>P75- We are a perfect site and close to many different sites</td>
<td>S19, S23, S31, S33, S37</td>
</tr>
<tr>
<td>P76- People feel the extra work is worth it</td>
<td>S19</td>
</tr>
<tr>
<td>P77- Students will want to transfer here and because of enrollment numbers, they won’t be able to come</td>
<td>S19</td>
</tr>
<tr>
<td>P78- I do not feel prepared to teach EE in my classroom because I have not been trained and have not had the opportunity to look for appropriate materials.</td>
<td>S21</td>
</tr>
<tr>
<td>P79- Wonder how we could use the theme in PE without being cheesy</td>
<td>S24</td>
</tr>
<tr>
<td>Key</td>
<td>Sources</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>P80-</td>
<td>As a part of the curriculum and DPI mandates, EE should already be infused and that a charter school was not needed</td>
</tr>
<tr>
<td>P81-</td>
<td>This seems to involve even more meetings and time involved activities</td>
</tr>
<tr>
<td>P82-</td>
<td>We know children learn best when all senses are involved</td>
</tr>
<tr>
<td>P83-</td>
<td>I hope we have the time to do the charter school justice</td>
</tr>
<tr>
<td>P84-</td>
<td>We should be doing things differently to be a charter school</td>
</tr>
<tr>
<td>P85-</td>
<td>Children respond well to bird day</td>
</tr>
<tr>
<td>P86-</td>
<td>Very concerned about the LD students and low ability students getting the teaching instruction they need</td>
</tr>
<tr>
<td>P87-</td>
<td>Did we take on too much?</td>
</tr>
<tr>
<td>P88-</td>
<td>Extra funding for anything regarding education is good</td>
</tr>
<tr>
<td>P89-</td>
<td>Don’t feel the core curriculum will really be affected that much</td>
</tr>
<tr>
<td>P90-</td>
<td>Kids need hands on learning and this will be a super way to learn</td>
</tr>
<tr>
<td>P91-</td>
<td>Tremendous waste of time and money</td>
</tr>
<tr>
<td>P92-</td>
<td>Just another passing trend, taking away from the essentials in education. Taking time and dollars from our students.</td>
</tr>
<tr>
<td>P93-</td>
<td>I see a lot of teachers out of their classrooms for meetings, leaving subs to do their teaching</td>
</tr>
<tr>
<td>P94-</td>
<td>I see less and less emphasis on the basics-reading, math, science, social studies and language</td>
</tr>
</tbody>
</table>
# Appendix F—Propositions, Year 2

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P100- Things are very positive, high level of enthusiasm</td>
<td>S1b, S4b, S13b, S15b, S16b, S45, S21b, S27b, S47, S49, S50, S52</td>
</tr>
<tr>
<td>P101- Jackson becoming the JEDC is “a good thing”</td>
<td>S1b, Sb7b</td>
</tr>
<tr>
<td>P102- “I was extremely upset when I was accused of not being a ‘team player’ because I wasn’t part of the curriculum week. It was only supposed to be mandatory for one person from each unit. I resented that!”</td>
<td>S4b</td>
</tr>
<tr>
<td>P103- It’s becoming more natural to infuse EE concepts into the curriculum</td>
<td>S4b, S50, A1, T2</td>
</tr>
<tr>
<td>P104- At first it was often overwhelming, but “now it seems more workable”</td>
<td>S4b, S8b, M36, M37</td>
</tr>
<tr>
<td>P105- What will happen when the money can no longer support any updates? When the district makes cuts?</td>
<td>S4b, S15b, O6</td>
</tr>
<tr>
<td>P106- Co workers seem excited about materials and equipment that we are getting</td>
<td>S5b, S7b, S13b, S46, S52</td>
</tr>
<tr>
<td>P107- Children enjoy outdoor experiences</td>
<td>S5b, S42b, S48</td>
</tr>
<tr>
<td>P108- I’m more comfortable with outdoor classrooms and topics</td>
<td>S5b, S11b</td>
</tr>
<tr>
<td>P109- We really worked together as a team to create worthwhile curriculum units</td>
<td>S7b, E5</td>
</tr>
<tr>
<td>P110- I think more people are excited about the charter than before</td>
<td>S7b</td>
</tr>
<tr>
<td>P111- I think there is less pressure and more teamwork going on, “more camaraderie”</td>
<td>S7b, S10b, S15b, S46, Sb7b</td>
</tr>
<tr>
<td>P112- I just wish we had more time to explore all of the things we have, “how can we get 28 hours packed into 24 hours without going crazy?”</td>
<td>S7b, S10b, E2</td>
</tr>
<tr>
<td>P113- I’m wearing out (in relation to CSSC)</td>
<td>S10b</td>
</tr>
<tr>
<td>P114- As a group we’re very dedicated to the philosophy of EE</td>
<td>S10b, S29b</td>
</tr>
<tr>
<td>P115- I need to scale down my own goals some and be more realistic</td>
<td>S10b</td>
</tr>
<tr>
<td>P116- My actions are changing—I’m trying to infuse more</td>
<td>S11b, S24b, S55</td>
</tr>
<tr>
<td>P117- We need to check back with other units so we don’t overlap anything unexpected</td>
<td>S11b, T1</td>
</tr>
<tr>
<td>P118- It’s just taking some time to plan in a way that incorporates EE aspects</td>
<td>S13b, S15b, S16b, S24b, S50</td>
</tr>
<tr>
<td>P119- I don’t have enough time for as much in-depth study of specific topics as I would like.</td>
<td>S15b, T1</td>
</tr>
<tr>
<td>P120- We need to be more specific about what competencies we want students to have at each grade level</td>
<td>S15b, S49, T1</td>
</tr>
<tr>
<td>Key</td>
<td>Sources</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>P121-</td>
<td>I have enjoyed the sense of ownership this project has provided the teachers at JEDC</td>
</tr>
<tr>
<td>P122-</td>
<td>Teachers feel empowered to make decisions related to curriculum, materials, and methods of teaching</td>
</tr>
<tr>
<td>P123-</td>
<td>At times the added work can appear somewhat overwhelming</td>
</tr>
<tr>
<td>P124-</td>
<td>I wish I had been an environmental ed major!</td>
</tr>
<tr>
<td>P125-</td>
<td>An increased level of communication within the building is a definite success of our program</td>
</tr>
<tr>
<td>P126-</td>
<td>There is more enthusiasm for learning activities from some students who have had limited academic success, “Seeing strengths in children that I would have never had the opportunity to see if it weren’t for our JEDC efforts”</td>
</tr>
<tr>
<td>P127-</td>
<td>The students (UWSP) we have here have been very knowledgeable and helpful</td>
</tr>
<tr>
<td>P128-</td>
<td>We would not be where we are today without the partnership we share with UWSP</td>
</tr>
<tr>
<td>P129-</td>
<td>The planning can get stressful</td>
</tr>
<tr>
<td>P130-</td>
<td>Some parents have concerns that some of our JEDC issues are overriding the basics of education (math, writing, reading, etc.)</td>
</tr>
<tr>
<td>P131-</td>
<td>The school working toward a common goal is a success</td>
</tr>
<tr>
<td>P132-</td>
<td>Kids are learning life-long values!</td>
</tr>
<tr>
<td>P133-</td>
<td>Student ownership has increased</td>
</tr>
<tr>
<td>P134-</td>
<td>I have heard parents encouraged not to “choose” JEDC because of their child’s difficulty and dislike of outdoor activities</td>
</tr>
<tr>
<td>P135-</td>
<td>It’s neat to see the kids’ enthusiasm carry over to their work. It’s very obvious after a trip to the outside.</td>
</tr>
<tr>
<td>P136-</td>
<td>More staff development would be beneficial</td>
</tr>
<tr>
<td>P137-</td>
<td>I have many periods where students are “pulled out” or “added”. Teaching on a common theme/skill building has been extremely difficult with such fluctuating groups</td>
</tr>
<tr>
<td>P138-</td>
<td>We need more collaboration time to develop and share plans, to think about timing in the curriculum</td>
</tr>
<tr>
<td>P139-</td>
<td>I feel proud to be part of the JEDC</td>
</tr>
<tr>
<td>P140-</td>
<td>Recruiting teachers who are committed to EE is a success</td>
</tr>
<tr>
<td>P141-</td>
<td>Staff and students appear to be happily engaged in creative problem solving regarding EE issues. Both groups have gotten out of the classroom and into the constantly changing “real world”</td>
</tr>
<tr>
<td>P142-</td>
<td>I have a new appreciation for the amount of planning and organizing that goes on constantly</td>
</tr>
</tbody>
</table>
### Appendix F—Propositions, Year 2 Cont.

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P143- Staff is in total “buy-in”</td>
<td>S55, O6</td>
</tr>
<tr>
<td>P144- “I am always welcome” in either of their classrooms</td>
<td>D8, O3</td>
</tr>
<tr>
<td>P145- “this is such a dream!”</td>
<td>D10</td>
</tr>
<tr>
<td>P146- Needed an expert to identify the areas that were important in a prairie. She could teach basic science but she wanted my opinion on what was most important.</td>
<td>D11, D16</td>
</tr>
<tr>
<td>P147- The role of the principal: he has two sides, the side that is very caring and compassionate and the side that is very businesslike</td>
<td>D11</td>
</tr>
<tr>
<td>P148- The businesslike side of our principal is the one that most others see and that through the charter school process he has had to be more flexible, more unpredictable.</td>
<td>D11</td>
</tr>
<tr>
<td>P149- I believe he is one of the most supportive principals I’ve ever worked under and that his support is vital to the implementation of the JEDC</td>
<td>D11</td>
</tr>
<tr>
<td>P150- It is so important to have parent support—this could not have happened without them</td>
<td>S8b, D12</td>
</tr>
<tr>
<td>P151- I mentioned my interest in having her &quot;embrace&quot; our EE / CS efforts this school year, and to make herself more a part of what is being done by the teachers in her unit in this area. “am in awe that someone who has been so adamant about how this is just another phase in education is here”</td>
<td>D13, O5</td>
</tr>
<tr>
<td>P152- Best part was hearing what other units were doing</td>
<td>E2, E3</td>
</tr>
<tr>
<td>P153- The principal seems very supportive of what I need</td>
<td>M31</td>
</tr>
<tr>
<td>P154- I’m (the researcher) filling in for him as principal</td>
<td>M31, M32</td>
</tr>
<tr>
<td>P155- A teacher said “You’re (the researcher) one of us now”, I feel so welcome and a part of the staff here</td>
<td>M32, O3</td>
</tr>
<tr>
<td>P156- Teachers stated they have never had this many parents involved in school things before</td>
<td>M33</td>
</tr>
<tr>
<td>P157- His role has changed as a charter school principal. He is “feeling good”—where he needs to be and when. His job is to serve as a “buffer between the DPI and the teachers”.</td>
<td>M33</td>
</tr>
<tr>
<td>P158- His only drawback is that he spends significantly less time in the classroom and spends at least half of any given week on “charter school stuff”.</td>
<td>M33</td>
</tr>
<tr>
<td>P159- They have gone from the “doers of the curriculum to the owners of it. If we don’t like it, it’s our fault and we can change it!”</td>
<td>M35</td>
</tr>
<tr>
<td>P160- Storage and location seem to be a challenge and the “hot” topic</td>
<td>M36, O6</td>
</tr>
<tr>
<td>P161- Parents seem happy, especially in the first three questions of the survey.</td>
<td>M37, M38</td>
</tr>
<tr>
<td>P162- EE activities (tree day) is “really fun”</td>
<td>M38, T2</td>
</tr>
</tbody>
</table>
Appendix F—Propositions, Year 2 Cont.

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P163- Tying their curriculum to the WI Rivers Academy and other charter schools in Stevens Point</td>
<td>M37, M38</td>
</tr>
<tr>
<td>P164- Three vital components of the success of the JEDC: staff, community and students.</td>
<td>O4, T3</td>
</tr>
<tr>
<td>P165- There is little knowledge of easy, fundamental EE techniques</td>
<td>O5</td>
</tr>
<tr>
<td>P166- They’re focusing too much on what they have vs. what they need to do.</td>
<td>O6</td>
</tr>
<tr>
<td>P167- Students need to be able to have the chance to formulate their own opinions on environmental issues and possible ways to take action; to make informed decisions</td>
<td>A1, A3, T2, T3</td>
</tr>
<tr>
<td>P168- It is important that students see environmental education as being part of their daily life</td>
<td>SB9b ,A2, A3, T1, T2, T3</td>
</tr>
<tr>
<td>P169- Teachers should be providing students with the tools to become life-long learners by emphasizing how to learn rather than what to learn</td>
<td>A3, T1</td>
</tr>
<tr>
<td>P170- My personal teaching style has become more inquiry based</td>
<td>A3</td>
</tr>
<tr>
<td>P171- I also have increased the emphasis on product or action-based assessments for my students</td>
<td>A3, T3</td>
</tr>
<tr>
<td>P172- use the outdoor site, that's a very big thing for me in environmental ed</td>
<td>T1, SB6b</td>
</tr>
<tr>
<td>P173- We know the knowledge the kids need to be successful in their fourth grade test</td>
<td>T1</td>
</tr>
<tr>
<td>P174- I can't wait to see what this year Kindergarteners are like as sixth graders</td>
<td>T1</td>
</tr>
<tr>
<td>P175- I don't think just going outside is doing anything</td>
<td>T1</td>
</tr>
<tr>
<td>P176- First we must teach children to love the environment, before you can ask them to save it, and I think that's really important</td>
<td>T1, T2, T3</td>
</tr>
<tr>
<td>P177- The biggest thing is parent communication</td>
<td>T1</td>
</tr>
<tr>
<td>P178- You have to make sure you teach the other side, balance between environmentalist and educator</td>
<td>T1, T2</td>
</tr>
<tr>
<td>P179- What we did with birds this year wasn’t really infusion-it was insertion</td>
<td>T2</td>
</tr>
<tr>
<td>P180- This year what we’re going to try to do is, we’re ready to take the next step where we are trying to integrate the curriculum</td>
<td>T2</td>
</tr>
<tr>
<td>P181- The curriculum needs to be spiraled</td>
<td>T2</td>
</tr>
<tr>
<td>P182- we want to provide our students with the tools and the understanding.</td>
<td>T3</td>
</tr>
<tr>
<td>P183- I think it’s neat to see overlap, to build our curriculum</td>
<td>T4</td>
</tr>
<tr>
<td>P184- environmental education is an area of study that can be and should be infused into daily curriculum</td>
<td>A1, A3</td>
</tr>
</tbody>
</table>
### Appendix F—Propositions, Year 2 Cont.

<table>
<thead>
<tr>
<th>Key</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>P185- I would like to see the expansion of the curriculum to language arts</td>
<td>SB9b</td>
</tr>
<tr>
<td>P186- I understand so many more issues concerning EE, but I also understand how emotional some issues are for people.</td>
<td>S8b</td>
</tr>
</tbody>
</table>
## Appendix G- Categories, Year 1

<table>
<thead>
<tr>
<th>Categories</th>
<th>Propositions that support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why become a charter school?</td>
<td>30, 44, 49, 50, 55, 56, 57, 75, 80, 88, 91</td>
</tr>
<tr>
<td>Monetary concerns</td>
<td></td>
</tr>
<tr>
<td>JEDC site is perfect location</td>
<td></td>
</tr>
<tr>
<td>Role of Parents/Parent comments</td>
<td>24, 38</td>
</tr>
<tr>
<td>Role of principal</td>
<td>9, 10, 11, 13, 20, 27, 48</td>
</tr>
<tr>
<td>Staff perceptions of him</td>
<td></td>
</tr>
<tr>
<td>Personal perceptions (by him)</td>
<td></td>
</tr>
<tr>
<td>Implementation concerns</td>
<td>12, 32, 39, 51, 53, 64, 2</td>
</tr>
<tr>
<td>How do we do it? What are expectations?</td>
<td></td>
</tr>
<tr>
<td>Need to start small</td>
<td></td>
</tr>
<tr>
<td>We need a vision</td>
<td></td>
</tr>
<tr>
<td>What happens when $ is gone?</td>
<td></td>
</tr>
<tr>
<td>Impact on students/reactions by them</td>
<td>1, 25, 34, 52, 63, 67, 70, 77, 82, 85, 86, 90</td>
</tr>
<tr>
<td>Students are excited</td>
<td></td>
</tr>
<tr>
<td>Developing a sense of ownership</td>
<td></td>
</tr>
<tr>
<td>EE is a obvious choice, good for students</td>
<td></td>
</tr>
<tr>
<td>What about LD kids?</td>
<td></td>
</tr>
<tr>
<td>Role of University</td>
<td>4, 8, 11, 17, 36, 41, 47</td>
</tr>
<tr>
<td>Role of researcher, and her impact on teacher attitudes</td>
<td></td>
</tr>
<tr>
<td>University professors</td>
<td></td>
</tr>
<tr>
<td>Assessment concerns—DPI</td>
<td>3, 16, 31, 73</td>
</tr>
<tr>
<td>Will we test what we need to?</td>
<td></td>
</tr>
<tr>
<td>Hope we’re not tested too early</td>
<td></td>
</tr>
<tr>
<td>Roles of staff—steering committee vs. non</td>
<td>21, 42, 74</td>
</tr>
<tr>
<td>Not part of the CSSC, not in the loop</td>
<td></td>
</tr>
<tr>
<td>Impact on culture-unify rather than divide</td>
<td></td>
</tr>
<tr>
<td>Enthusiasm towards becoming a charter</td>
<td>5, 6, 7, 62</td>
</tr>
<tr>
<td>Hesitant towards charter and EE school</td>
<td>68, 78, 59</td>
</tr>
<tr>
<td>Apprehensive</td>
<td></td>
</tr>
<tr>
<td>Lack of training</td>
<td></td>
</tr>
<tr>
<td>Resistant to idea</td>
<td>19, 69, 91, 92, 93, 94</td>
</tr>
<tr>
<td>Keep things at status quo</td>
<td></td>
</tr>
<tr>
<td>Waste of time and money</td>
<td></td>
</tr>
<tr>
<td>Teachers away from classrooms</td>
<td></td>
</tr>
<tr>
<td>CATEGORIES</td>
<td>PROPOSITIONS THAT SUPPORT</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Teacher workload</td>
<td>18, 40, 45, 54, 60, 65, 81, 93</td>
</tr>
<tr>
<td>• Taking away from family</td>
<td></td>
</tr>
<tr>
<td>• More meetings</td>
<td></td>
</tr>
<tr>
<td>• Charter school things—add on</td>
<td></td>
</tr>
<tr>
<td>Teacher workload</td>
<td>58, 83</td>
</tr>
<tr>
<td>• Will I have enough time?</td>
<td></td>
</tr>
<tr>
<td>Teacher workload</td>
<td>76</td>
</tr>
<tr>
<td>• Extra work is worth it</td>
<td></td>
</tr>
<tr>
<td>Fears: Overwhelmed—too much</td>
<td>14, 37, 87</td>
</tr>
<tr>
<td>Affect job responsibilities</td>
<td>15, 22</td>
</tr>
<tr>
<td>• Will I be compensated?</td>
<td></td>
</tr>
<tr>
<td>Affect role as teacher</td>
<td>26, 33, 35</td>
</tr>
<tr>
<td>• Present options not advocate</td>
<td></td>
</tr>
<tr>
<td>• Have a bigger classroom—including outdoors!</td>
<td></td>
</tr>
<tr>
<td>Becoming more comfortable with idea, sense of ownership</td>
<td>23, 46, 61, 62, 71</td>
</tr>
<tr>
<td>Curriculum—conflict over ownership of subjects, who’s teaching what?</td>
<td>28</td>
</tr>
<tr>
<td>Curriculum—still teach basics and environment</td>
<td>43, 66, 89</td>
</tr>
<tr>
<td>Curriculum—how will we integrate in all grade levels?</td>
<td>72, 79</td>
</tr>
<tr>
<td>Curriculum—originating from top down</td>
<td>29</td>
</tr>
<tr>
<td>Curriculum- We should be doing something different</td>
<td>84</td>
</tr>
<tr>
<td>CATEGORIES</td>
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{Emily} Once again, I'd like to welcome you all to this week. To start with, I'm just curious, I know I sent you all out a letter and a schedule and I was just wondering if there were any comments and questions about what it was I originally sent out? (So now you know your audio taped and so no one is going to say anything--(laugh)--right?)

{Teachers} (laughter) To be honest, I read it, I left it on the counter and that's where it ended.

{Emily} Well excellent! (laughter) Well then here we are. That's great, that's great.

{Teachers} It's summer.

{Emily} Exactly. Well all right if there are no comments please feel free, like I said, as things go on this week and you have ideas or questions, please let me know. To get us started, let's just talk about how will we know that we're done? What it is that we want to accomplish as a group for this week? What do you think?

{Teachers} Direction.

{Emily} Direction? Okay. What do you mean by that Rose?

{Teachers} Um, just what is expected, like what do we expect to do this next year and maybe the next year? Where are we going? What's our objectives and things we want the kids to come away with?

{Emily} Okay.

{Teachers} Just as teachers, what's the direction we are going in?

{Emily} Okay, anything else?

{Teachers} Okay, for me I want to be able to be able to look at the Social Studies curriculum, I mean I'd rather hear and I want to look at where I'm going to insert my EE curriculum and you know, where it is I'm focusing on. My thesis is, is with, um Social Studies Curriculum in EE and integration and citizenship skills, its what I'm writing my thesis on.

{Emily} Okay.
{Teachers} So, I'm looking at how I can take my social studies curriculum and EE and integrations and citizenship skills... and so you know, I'm looking at how I can take my social studies and environmental ed and mesh 'em. And use the outdoor site, that's a very big thing for me in environmental ed P172...

{Emily} That's what the afternoons are for, right?

{Teacher} laugh

{Emily} Anything else?

{Teachers} I'd like to see a scope and sequence

{Emily} Okay, I was going to ask if there were any products that we wanted?

{Teachers} I think one of the things that I'm looking at too is just, um, I don't want to use the words 'stepping on toes' but kind of like, generally, what each unit's expectations are P117, what they want to do, so that (yeah, lots of agreement from other teachers)...like the actual activities too.

{Teachers} Right, well we had talked about something like that, like saying these are really predominantly appropriate for 1 or 2. Yeah, that's a good idea it seems like. Moving into the LEAF...

{Emily} I'm sorry?

{Teachers} Moving into the LEAF curriculum. (Other comments, hard to hear). I want a plan; I want to work on...

{Emily} Okay, actual lesson plans, unit kind of, okay.

{Teachers} Kind of like we did last year so that we can have a start.

{Emily} Anything else? This list seems pretty small, for a whole week (joking)

{Teachers} (laugh) Oh no. It's huge!

{Emily} (laugh) I know. What were you going to say?

{Teachers} Going back to the scope and sequence. I think as Rose said, one of the things that's really nice to know what other people have done to know what you can do with your students P117. That as 5th and 6th grade teachers, we have a sense of what has been taught at the lower grades and that we have a sense of...

That's kind of hard to do though, don't you think? I mean as far as actual things they've done?
Yes, but broad terms? Overall themes, not as a unit but um

Broad terms, right you can do the same thing differently in 1/2 than definitely you would do it in 5/6. And I know there's so many things out there so you wouldn't have to do that? But I think the hard, that's hard to have that contact with everybody and to know what everybody's doing.

But if we develop a scope and sequence, we could have a sense that in 1st and 2nd grade is looking at habitats or whatever it might be that you are addressing to know that, that's going to drastically...

Or at least be introduced to what needs to be

Or like when you study ponds, what are you actually studying in a pond? Are you looking at the major animals, or the major plants and then you can say oh a frog lives in a pond, or whatever. And then, they would use...

Actually I found out when I was working with Rose is that we did a ton of weather this year

You said that

And that one of the things they do in 3rd or 4th is weather. And I'm kind of like, we've done a ton this year. And there is only one thing that I've thought that we hadn't covered.

But you know it never hurts for them to hear it twice!

Right, I know. (laughter)

No the only thing is, when they do it again if they have things they have to present, their like, we did it, they shut off, they shut off. And they don't always intake, you can teach the same concepts

One of the things, that I wanted to say too is that we need to look at, we need to make sure that like Rose and Deb and I, can let the people below us know that knowledge the kids need to be successful in their fourth grade test P173. Not that we want to teach to the test, but there are definitely science, um social studies and language arts skills that they really need to know about so you can at least start building on it.

Boy you're going to do a lot of experiments with a lot of math

Well they read a lot of graphs, and data and have to make graphs

I'm just personally worried about that 3rd grade test. I have had a lot of them as second graders and if they bomb it in 3rd grade, than I'm really screwed! (laughs)
And you'll come back to me and I'll say, well it must have been something that (laugh) you did, they must have been your kids! (laugh)

{Emily} Anything else? For what we have up there? If we don't, what I will do is, I'll leave this up and as we're going along this week, we'll kind of check in from time to time to see how we are accomplishing these goals. Um, not surprisingly when I sat down with Betty and Tim, and I sat down with Dennis and I sat down with Carl, many of these same things were coming out. The same kinds of themes and uh, Tim gave me a really good analogy. He said, it almost sounds like your looking for a cube. And then later I was talking to Carl about it and he mentioned a triangle. And, so I will pass out the triangle of sort of where I see us going. On one side of the triangle is sort of, what we talked about, how will we know what is being taught at each unit? What's the content that's going to be covered? Um, the other side you talked about when you visioned your ideal student, you talked about them being creative problem solvers, you talked about them being stewards of the earth, well those are all process skills, those are all stewardship skills. So what kinds of things, what kinds of experiences, what sort of skills do we want those students to have aside from the content? and then of course, how do those standards fit into that. And when I was putting together this week that was sort of the first three days that I was thinking about. The first day talking about content, the second day talking about process and then aligning it with the state standards. So I'll pass that around to sort of remind us of where we're going. Today we'll focus primarily on the left hand side.

Well the other thing I do have is folders and paper and stuff like that for everybody here. Does everybody have what they need? All right, if we, if the first thing if you could do, what we're here to do this week is to write an environmental education curriculum, our scope and sequence for our environmental school. And I know I've asked you to do this a couple of times, but what I'd like you to do is spend a couple of minutes, sort of thinking about how you would define environmental education? I think we need to have some sort of common understanding and common goals, what do we mean by EE? Before we start working on this curriculum. So if you could spend just a couple of minutes, writing down your own personal definition of what environmental education is. And this one point, we don't want you to work with your partners that happens later. You have to start on your own.

(Work time)

About one more minute to finish your definition.

Okay, now if you can get, you can stay right where you are or move around. If you can get with two other people and just share your definitions and see how many similarities or differences there are? So you are in groups of three.

The next thing that I'd like you to do and I know a couple of people ran out, but you certainly can explain it to them. All of you have a folder or enveloped labeled "Is this
environmental education?" and what I'd like you to do is go through as a group and
discuss each item and put them in a pile of either yes or no. There also are some blank
sheets. If there are things you've done at school this year that you want to include in that
pile, feel free to add that. So, just talk as a group, yes or no and put them in two different
groups.

Okay, I'll give you one more minute, to finish this up.

All right. Now I'm curious, how many groups, raise your hand if you put every single
card as a yes? You don't have any nos?

{Teachers} Well maybe.

{Emily} Okay, there were no nos anywhere? That's fine, I'm just asking because it
looked like a couple of you had different piles.

{Teachers} We had one that we debated but we came up with way.

{Emily} Okay, which one was that?

{Teachers} The soup kitchen, volunteering in the soup kitchen.

{Emily} Okay. Was there other ones that were kind of...

{Teachers} We had three that we were debating and that we brought them back around.
We had the raising endangered fish, but then we brought that one back in. Um we had
writing letters to support and regulate um use of sidewalks for skateboards but we
brought that one back around by saying that was back to the asphalt thing, saying that
there's different and then the volunteering in the soup kitchen we brought back around to.
If you brought food in, or...we thought we could bring everything back to the
environment once we talked about it.

{Emily} Okay, any others that were challenging? Now obviously not all of these you
would do with elementary kids-right? You probably might not have a rousing discussion
on birth control with first graders (laughter). All right what I would like us to do and
please keep your cards out, we have about a 15 minute video that the Wisconsin Center
for Environmental Ed put together on the history of EE, and what EE actually is at least
in terms of how its defined. And once you've watched that video or as your watching this
video, if there are things that you would change your mind and maybe now they do go in
the no pile, please feel free to pull those. We're going to talk about our interpretation of
these cards.

(Watch video)

Okay so I'm going to sound like a teacher when I say, be able to defend your answers.
All right so was there any changing of categories? No, okay so you still feel confident about all those? Then, look at #5- Taking 4th graders to the zoo, who can explain to me how that is part of EE?

{Teachers} If the zoo is based on habitats, and learning about what animals live in certain habitats

And even values or awareness, it could lead them to some sort of participation

You could build on the issue of awareness; there are some people who are very much against zoos. What are the goods and the bads of zoos and maybe even talk about why we have them? And with little guys, that's not even developmentally appropriate but for 5th and 6th graders you can start talking about that, you know.

We took our third graders to the zoo and studied primates with Roots and Shoots and we brought chimp toys and we gave the chimps the toys and then were able to watch what happened.

Oh neat (lots of teachers)

{Emily} Did you have something to add?

{Teachers} It was the value, should we have zoos?

And kind of keying off of that and what everyone else has said, if you study that you could go to the zoo and study it first hand and remember that you can't always, if your studying birds, you can't always go outside and see a bird. But in a zoo, you're there. And sometimes people don't have other options. A zoo might be their only chance.

{Emily} Any other comments? 4th grader, zoo? How about #7-Constructing an aquarium in the classroom?

{Teachers} I think it depends on the kind of fish you were doing, I mean salt water, fresh water. The kids could learn about the environment that's needed for the survival of the fish?

In 2nd grade, in the pond unit.

An aquarium is a model; it's a miniature of the ecosystem

And as a study you could make it.

What sort of pollutant did you put in there?

{Emily} What goal of environmental education do you think this one would most aptly address?
{Teachers} Participation? #7?

{Emily} Yep, which one? Do you think its awareness? knowledge? skills?

{Teachers} Knowledge, values.

I think if you told the kids, I mean if you had it for a while and you told the kids, okay today we are going to dump this whole container of oil in our fish tank. And just to get the reaction to that and they'd be like, NO! and so that maybe that'd bring you up a notch and you could start talking about why would that be such a bad thing if I dumped this thing of oil in here? And then we could talk, about all of our wonderful pollution at the mill and things like that.

And with skills also, it would depend if the teacher was sitting in front of the class saying here it is, or are you actually having the kids build the awareness of what it takes to build this and having them actually do it. And you're giving them skills too.

Are you actually going to be doing an experiment with it? Would you be collecting data? Those are skills for research.

{Emily} Okay, okay anything else, about building an aquarium? Okay, how about Writing letters to stop the use of styrofoam in the school cafeteria?

{Teachers} Values, Knowledge, all of them.

Again I'm going to go back to skills because you're again, you're teaching you're crossing into the areas of language arts, you're actually teaching them how to write a letter, how to express themselves what it takes to create that letter. How many kids write thank you notes? You know? And actually giving them that skill to be able to communicate, we're crossing into the areas of language arts.

{Emily} What is your role as a teacher? In terms of something like this? Is this an issue you bring to your students and say, we shouldn't use styrofoam anymore in the cafeteria? Is this an issue, I mean, how would you make that happen?

{Teachers} I think it's an issue you'd bring up for discussion. And have them do research or take, or survey of, I think you need to put a question in their mind. But then I think you need to pose a question, I don't think you can pose your values...

It goes back to what we learned last year, it needs to be inquiry based. They have to connect it to something important in their lives.

I think we have to provide them with what would be the alternatives. Is it an economic reason? Or is it, they're all good and bad. You can say stop using styrofoam but what
could be used instead? And have kids realize that sometimes we're weighing issues and that this is less negative than this.

I think that you can't know everything about everything and have your students do this research, everybody will learn so much, including you. And you might learn a positive thing you never thought of.

Well, bringing to plastics we talked about... how plastics aren't bad they just need to be used appropriately. The research how minimal or extensive it is will point that out.

Let me make my point, if you bring up an issue then you necessarily bring it up because it's important. And what you'd really like is that your kids to come up with this as an issue. You'd like them to come and say, "How come we use styrofoam in the cafeteria, why don't we use something else?". You have to be careful how you bring it up. P169.

I would think that it would be through literature? Reading a story? It might be an environmental story that would pose questions to them? Well, we're using styrofoam what do you guys think about that?

But I think you can bring it up as what would be the best product? What would be the best receptacle for that? You're not developing bias by saying this or that. And I think you could say, you're in charge of the lunchroom, what would be the best product to use...

If we are trying to have an environmentally friendly school.

Right and your not saying, you're not making a decision for them. P169.

It should be interesting to see what happens as our kids get older because just this year in first and second grade, to see how they changed looking at things. For example, your little Trevor, we were outside doing our circus wagons and all of sudden he looked up and he saw these birds circling and they were like eagles or hawks, we couldn't tell because they were far away. And he goes, "Why do you think they're up there?" and I said, well what do you think? He said, well sometimes birds do that when they're looking for food and I said, "I betcha your right because they can see really far." and he just was going on and on was just so interested in, and you know it was such a neat little thing. That all of a sudden something sparked his interest in eagles and he had the questioning ability and come up with 'Why do they do that?' and being okay when I didn't give him the answer but when I said, "Well I don't know, what do you think?" and he was okay with that and kept on going. But I'm really, I can't wait to see what this year Kindergarteners are like as sixth graders? P174? How much they are already picking up on things. They just, it's going to be interesting to see.

That's that awareness. Yeah and you know its going to take that long, you know its not going to happen like this but its exciting.
Okay, anything else about that issue? Incidentally if you are interested in this, there's a lot of literature I could get you about values education and different strategies and I'm going to give you a resource that was actually mentioned in the video and I would ask or encourage most of you, there's one page on the back, it's the first appendix called "Two Hats" and its an article about your role. Most people who are environmental educators, especially at nonformal institutions, they have a certain ethic already, you know, what I brought paper plates vs. styrofoam plates. If you get some juice over there you'll notice I have a marker, it's like a picnic, put your name on it and I'll wash it and bring it back tomorrow. That kind of thing. Certainly I have some ethics and some values, but what is your role as an environmental educator in terms of balancing that? And we talked about these two hats that we wear. All right so my last one is tell me how debating the rights of young women to obtain birth control information is environmental ed?

Well, its the population, the population increase is one of the issues we have to look at and um, what impact we have on our environment

Okay.

And um, its not necessarily that we have to deal with population as much as how our population is growing at this humongous rate that our natural resources aren't necessarily being replaced fast enough

Looking at population is an obvious one, but also if you look at what is birth control, it's a drug and where do drugs come from? And how are they made and such they could look at the pharmaceutical aspect of it too. Not necessarily birth control but you could use another drug

Were there any other ones uh, that you thought was difficult to debate between whether it was environmental ed or not? The slaves? Or even how is volunteering at a soup kitchen environmental ed? That doesn't have anything to do with the environment.

Citizenship skills

Also with Smart Growth you could look at development, why are there homeless people?

Do you have to take your students outside to do environmental ed?

No, not at all.

We were there last year?

But didn't we mark down how many times we went outside?
It's ridiculous but you teach the environment everywhere P168... I'm not saying that we shouldn't use the environment, we should, but I don't think just going outside is doing anything P175.

It's a grant writing thing, when you write grants you have to say how are you going to prove that you accomplished your goals so you have to come up with these evaluation methods. And so that's why.

People will be doing more activities out in the natural environment. We sold our natural environment as a reason to become a charter school, that we had a specific situation. Having that and by giving us money to develop it, we will see teachers using it. So we did state that in the grant.

....

{Emily} Well all right, so I have a couple of closing comments for that. First of all, um, in terms of values education there's another resource I would recommend. Its 40 pages and you can check it out from the library. It's called "Beyond Ecophobia" and there's a gentleman who works at Antioch New England Graduate School for EE and he talks about the fact that we teach students things too early, things that they're not empowered about. We teach 3rd graders about the rainforest destruction but they can't do anything and he shows an example of, I think its a 2nd or 3rd grader who makes a poster that says, "Don't use ivory soap, save the elephants". And I mean, truly this is a disconnect. That we need to teach students things that are developmentally appropriate, and that instead of creating kids who care about the earth, we create kids that are phobic. I'll pass that around but I currently have it checked out, but you can check it out of our library.

{Teachers} Emily, somewhere in one of the things that another graduate student gave us on nature journaling there was a quote which said something about that we first must teach children to love the environment, before you can ask them to save it. And I think that's really important P176

That's a really good point

And I think when you start talking about developmentally appropriate; you'll find that probably will come out in the lower grades. You start with all of this sensory awareness and that's where you start developing this appreciation

{Emily} And there are a lot of kids, I know, one of the saddest things for me ever working outside, and first of all, my own statement and I know I've made it to some of you, I've never worked at an environmental education facility. I've worked in EE for 5 years, but I've never worked anywhere that has gone beyond awareness and knowledge. Ever. Because I've worked at places that are really scared about teaching values, really scared about teaching skills and participation and maybe that's not the role of nonformal but that is something, that I, the more I learn about environmental ed the more I think I
become more interested in formal education. Because you are the ones that have that impact, and have that capability.

The other thing is that each one of these goals, you may teach at all grade levels but there are certain criteria that has sort of been developed as a standard. Certain focus areas, certain grade levels and so I am going to pass that chart out so you can see that and each one of you can have it. You know, awareness obviously you're going to emphasize that most in kindergarten, first, second and third. Knowledge you may do mostly 4th-8th. The only one that really is focused on throughout K-12 is ethics and values. And then you've got your skills and your action experience. I even read about one value education gentleman who said you should not do any action project with your kids unless it comes from them. As a teacher it's not your job to say, let's go spray the drain or let's...you know, that's why I ask you that, what do you think your role is? Now you may choose differently, you may say you know what no, I really want to teach kids about this or obviously if you teach about the river you may have certain biases one way or another. But some of you may have heard of the classic example of the school that's a charter school actually in MN, that was studying the river and found deformed frogs and launched into a huge study at their school but it was because the kids wanted to know why. What's going on? and they ended up involving the pollution control agency in 4th grade! And so even though it says, oh gosh we shouldn't teach skills in 6th grade, there maybe things that come up that may be appropriate as well.

If you could put those sheets back in the envelopes, I'll just come around and pick them up.

{Teachers} I just know that when I was teaching in Rose's class, I mean I have this background in EE, and there's things I wanted to do and would like to do, but sometimes its difficult to get it all P119 and to do it the best, ideal way you know, textbook or whatever it doesn't always work out and so it was interesting I think. It's going to be a slow process, taking little steps and building towards it. Some of the things I did in Rose's class, I did some stuff but some things I didn't do the way I would of ultimately liked to have done it. I think, you know if I did it next year I'd do it a little bit different and maybe we might actually get to that upper end, do you know what I mean?

I have a question for you, when you talk about values, um I don't know, have you had training already on how to teach values and issues? Do you have concerns with that? Because I know when I moved here from Idaho and there's a lot of environmental issues which push buttons and if you start teaching things in school, I think you might realize that you might get some feedback from parents and other people that you're either for something or against it or why are you doing this? And I think...

Do you think you've had enough training to sort of start that sort of education in the classroom? Those talked about issues and what to do if people approach you about why you are doing this and how do you handle the emotion that might come up with your student or outside the classroom?
I think they’re coming to an environmental education center that they have to be under the assumption that we’re going to be for the environment? Do you know what I mean? So I think that’s going to help us right there but as Rose said, we already teach values in the curriculum. I mean, we teach personal safety, drug and alcohol awareness, gun safety—all of these safety things already.

The biggest thing is parent communication P177 and you have to be aware, I know when we started using novels, there were some issues with certain novels. When we went whole language and what we had to do was make sure that when we were going to do something, that parents are aware of what you’re doing and that you know, you are very open to parents that if they do have questions or if anything they can contact you and you can see what is happening and that starts the trust thing and if they do have issues you can go a little bit deeper. But the biggest thing is open communication and that hopefully you’re not you know, totally pro something. ... Something we’ll have to look at is say if we are going to start the study of um, you know with our 6th grade environmental issues, our kids will be looking at this, here’s what the topics are, here’s what the teacher generated and this is what they’re doing.

You have to present both sides.

{Emily} At least both, if not more.

{Teachers} ...and then some. No, no, it’s that we can’t keep saying, “we’re for the environment”, we the pro environmentalists. Because I would really bet if you asked most people, more people would say that they are for the environment. Anyway you have the really look at that and make sure you teach the other side P178.

Or, my, Roosevelt was an agricultural school and you had to look at many of the children that I had came from farming families. They used pesticides, they use insecticides and um, you know you had to be very aware when you were talking about farming, I mean especially since farming is very important to Wisconsin, you have to be aware that there are needs for those and you know, what are you going to do?

Well I just ask that, that do you think that that topic might be something that the larger JEDC staff might need workshops or staff development on?

Yeah...words of agreement.

{Emily} Well it is something, throughout the course of this week if there are topic areas, if there are things that you think gosh, we should do an in-service on values education or, we’ll start writing these down and we can see what happens throughout the year. Again, making sure that it’s what you want vs. something that Denise and I, well we really think you should study this. What are your needs? What other things do you need?

{Teachers} And I just brought up that one because it Idaho and in other places too that out of the five, that’s the one that gets a lot from the outside and so...
{Emily} Well you may have noticed that there are a couple of resources that were mentioned in that video, um, Dennis will be a little biased as he was the coauthor of this book. Um, I do have one of these for each one of you to have. Not forever, as it does belong to the library but at least for this week and if you wanted to keep it for a bit longer that’s fine. There all out in my name and so (teachers laugh) and Phyllis... as long as I get it back before May of 2004 before I graduate that would be really great (teachers laugh) but honestly, the center has about 50 or 60 copies of these and she just said how many do you need? It may even be that as this week goes, we may go over to the library and if we do, you could also get your very own personal copy. But it does have that chart and it talks about each of those subgoals, where the background came from, why the focus is and there is also even a section on why...

{Teachers} Emily, it would be pretty worthwhile to have a couple here...

{Emily} I guess you can kind of, you can, you may as you are doing your planning refer to this at various points, especially if your particular grade level tends to have a certain focus. Like Charlene might want to read all about awareness because obviously in Kindergarten you going to focus more on that then on anything else. There’s not going to be reading material but it’s a nice resource to at least have when thinking about curriculum planning. The appendix that I mentioned is Appendix 1, and is talking about where environmental education originally came from, there was a UN conference called the Tblisi conference and that’s in here. So there’s a lot of things...Yes, “Two Hats” is also in here, its Appendix I and it talks about your role as an educator. Now the last thing before we take a short break is, I had an idea and if it’s not something you want to do, that’s fine. We have five days and there are five subgoals of environmental education so what I thought might be nice is if for myself and possibly Denise could model an activity that models each of the subgoals each day that you would actually do with your students. Is that something your interested in? If so, we can have about a 20-minute break about five after ten if we could meet, we’ll go outside and I’ll do an activity on Knowledge. Okay?

... 

{Emily} Actually I’m very excited about the discussion we had this morning. Um, you read this cover to cover, (yep, yep) Excellent, excellent. You’ve etched the grade into your brain and now what do you say we spend some time talking about content? Let’s get to the what it is we want to teach. Now each, I could look at it in a couple of ways. We seem to have gravitated towards some specific areas. For example in first grade we’re looking at insects and gardens, 3rd and 4th have been emphasizing on birds and trees, 5-6 prairies and wetlands. What I was thinking and you can tell me if you think this is a good idea, is that I would give each one of the communities a piece of paper and what I’d like you to draw is a concept map. Start with what that concept is and then draw connections to all the things that you want to teach kids about a prairie or all the things you want to
teach about insects and it doesn’t just have to be Science. We are concentrating on our Science curriculum this week but if there are other connections you foresee and you have probably, are you all familiar with what I mean when I say concept map? Where you draw and connect things to each other? But then I was thinking I’d give each group about 45 minutes to develop a concept map and then we’d lay them out and say, “Okay this is what Kindergarten is doing, this is what 1st and 2nd grade is doing”. What do we need to teach? Where’s the connections between grade levels? And it would also be a very good physically representation. Betty, Sherri and Karissa could say here’s what I’m doing in 5-6, I didn’t know that’s what they were doing in 1st or 2nd grade. We could really have this physical representation of what we are going to cover content wise and then go from there. Does that make sense to everybody? Are you comfortable with that? So I can give each community...

{Teachers} You’re just having each community focus on their particular topic, not science in general?

{Emily} For this particular case, yes. You can, I think at one point you need to decide as a staff how are you going to teach? Are you going to teach thematically? For example, we’re going to teach about gardening. Where everything you have from English to Social Studies talks about gardening. Or everything in our Science curriculum is gardening. To me it’s a question of insertion vs. infusion of your environmental education curriculum. And maybe as a community you want to start there? How much do we want to embrace this? I recognize that there are things, this would be a good opportunity to pull out what it was you did in June. Pull out the science curriculum, you know you can start with these topic areas but then also, what is it that you used to do in Science? For example if you used to teach about body systems, how does this tie into your central theme? Okay? Any comments or questions? If not, you can come and get a piece of paper? I have markers, you can spread out or even if you wanted to go to a classroom you certainly could. But I don’t know if there are any that are still set up. But if you could be back here, how much time do you want? Half hour? Okay, then come back about 11, 11:15. And try to think content, not necessarily process this time.

... 

{Emily} Okay if I can have, now comes the point where we can stop and look at what everybody’s thinking about and I think, what I’d like each unit or each creator of their worksheet to sort of just talk through what it is, sort of do some translation for us, so we can get an idea of what everybody’s thinking. Then we can look, please feel free, refrain your questions until everyone’s had a chance to present everything because there may be questions about well, what does that really mean for me as a 6th grade teacher? But let’s just see it all first and then we can talk about those holes. If you do have questions of holes that you want to ask a specific unit feel free to write those down. And again, let’s just do an overall presentation. So, Charlene take it away.

{Teachers} (Each teacher/unit shared their sheet and what is covered in Science)
{Emily} All right, does anyone have any questions? Do you need any more clarification? Do you need to know more? Okay if not, then I have a couple of questions that I was writing down as you talked. First of all, we have 19 minutes left and I want to be observant of your time and I know some people have afternoon classes, including me. So I can't stay much in the afternoon but the first question I want to ask of all of you is there has been a lot of discussion and a really reoccurring theme in all of the data that I have been collecting from you is What do we give up? Gosh, you're asking me to do this environmental education theme on top of everything else that I do. What does that mean? What am I giving up or do I get to give up anything? And I think that's a question that you need to decide sitting around this table. Is what's up here on top of the Science curriculum? Is it replacing the Science curriculum? Is it meshing of those two things? Because I think each community sort of looked at this differently, so maybe we should start there with some sort of discussion about the current Science curriculum and you know we're not K-12 so we are still going to have 6th graders who are going to graduate from our school and going to end up in a 7th grade classroom. And as Mr. Science here was so good to point out with several groups, Tim Wright the Science Guy, was commenting on the things that aren't on any of the sheets. If this is a replacement of the curriculum, no one's talking about space, no one's talking about magnets...

{Teachers} We are, and I guess if I can speak for my unit somewhat. At the end of the year we went down to our Science and looked at all of the things that were there and we said, what can we focus on and what did we use from our existing Science program? And we looked at, like Earth's riches that we infused. We saved things that we might pull from but we didn't give up anything that we thought was important to teach our children. We just looked at how could we infuse it with an environmental focus because that's what we did. I don't think you should add something new and I mean if you don't teach it... we talked about teaching things through literature, through writing, just encompassing everything because you can't teach in isolation. We just refocused.

--END OF TAPE 1--

{Emily} How does this affect your science curriculum? Is it your science curriculum? Is it replacing it? On top of? Is it, what is it?

{Teachers} Ours, we don’t have one. You know all we’ve got is a loose one, the state standards.

I think you need to look in your units and then get more specific as to what you’re going to teach. You know if you’re teaching um, someone’s teaching the pond, well what aspect are you teaching of it? Are you taking animals of the pond, well what do you mean?

But I think if we move to your next step, then we should all get together again and say, you know, look here, here, here, here and here let’s try to figure that out

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Try to look at two years, that you can say oh yeah I’m teaching birds this year, well we're teaching this, this year so how far, you know that’s how far I think you need to look

For example, at the end of the year Jeanette asked me, how are you teaching weather? It’d be nice to know that somewhere between 4th and 6th grade that it is taught, that someone is doing it. But just to know where those parts are being inserted and to what degree.

But are we going to do a second year unit, are we always going to do the same thing, that’s the other question I want to know because it my unit in the past we had problems with that as far as…

We decided not to cycle our science and social studies curriculum this year
See that’s the kind of things that’s nice to know

So then we were going to pick and choose like the things that are there, these things are kind of a 3rd grade thing, these are a kind of 4th grade thing
So you guys are cycling and you’re not and, oh not always.

There will be some things that you like to teach, whether it’s your dinosaur unit or whatever you can still do that, but do it through your literature. You just can’t do science with it, you know?

But I, for example the simple machines unit should that be taught, that’s a topic that’s in fourth grade, should that be taught? And if its not, is that okay? What’s the key? What are the students supposed to get out of that title that is supposed to carry on with them? Or is it something else they can get?

And I think in the older grades, you might have bigger gaps between your grade levels to. In 1, 2 we’re not at that big of gap, there’s some but most of the curriculum you could do at either first or second and I don’t know if that’s always the same

That’s why we went to not cycling because the 4th grade Wisconsin stuff is way too difficult for 3rd graders.

The idea was, if I recall in 3,4 was to do a general idea on the environment and there are many things you can do with that. Say in 4th grade we’re going to target …

It’s that big jump from second grade, where your learning to read, to using reading to learn and that 3rd grade its just too much for them to learn the government and …

But could you just do your science and not your social studies?

Um, I think the science, like matter is a 4th grade unit, I think that’s really tough for third graders, cells and part of the, so that’s one of the reasons in 3,4 that we…but I guess we could even do cells in trees. That’s the philosophy behind going away from cycling. It’s
that its just not developmentally appropriate for third graders to do some of the things they are asking us to do with 4th graders.

I have a question, because I have to do that too

Well we end up switching groups, we do and we have done, we have actually switched for science and social studies ever since I’ve been here whether we were straight grade levels or whether we were not because we mixed kids up, we had combinations for science and social studies. Last year is the first year we went straight through in ten years and one of the reasons to is because we wanted to contain kids, we wanted them to feel like they were walking into a classroom that was theirs. But are we going to cycle the trees and bird things? Those things we’ll cycle and then stick to the core curriculum?

Well if you look at the trees and the third grade things then you would do maybe some of those things.

And we can do it, Mary and I were going to 3rd grade stuff...

{Emily}  So there’s been a lot of really good discussion that has been started and I think that part of this is just the overall communication in terms of what each grade level is doing. So my next question is, where do you want to go from here? Are you at a point where you want to start seeking some more connections between these two sheets of paper which is something we could do tomorrow? Is this something you want to, I’m just curious where do you want to go from here?

{Teachers}  Could there be some time given for the group to start putting more of their specifics P120 or whatever? Give them some space and we’ll look at ours, what are we starting in the fall and then break them down for our own personal use. To start out at least. Come back together and see if there is any gaps or holes.

{Emily}  What about the things that are not on these sheets? What about the things that you’re doing in science but aren’t written down?

{Teachers}  I think we need to be listing them somewhere so we can actually see that there are gaps or overlaps.

But I think we need to do more of that

I think so too. So then if you had more time in the morning, probably an hour? Something like that? Then what we’ll do is look at what we’re going for in the fall and go from there.

{Emily}  All right are there any other comments or questions? So what I’m thinking is that tomorrow morning, what we’ll spend is the morning, an hour or so at the beginning, continuing to flesh out some of these so I won’t work, originally I was hoping to type this
all up and hand it to you but some of this still needs to be fleshed out. And that’s okay, that’s totally fine, that’s wonderful but we have a starting point, we have a jumping off point. And I think that’s great, we’re starting the communication, we’re starting the dialogue and that’s what needs to happen. Are there any other questions? Has this been, has the morning in terms of talking about environmental ed, was that helpful?

{Teachers} Yes, I just have a question. Will we have a format to follow, similar to what 5,6 is done that we want so when we type this up it will be easier to use?

Perhaps that’s something we can start in the morning. Come back and say, how do we want to write this up? The other thing is we have six computers here, we could start typing it right up

I think that that’s what we should do.

{Emily} The other thing, the last comment I want to make that I mentioned to a couple communities, is that it may end up that just doing the three parts of the triangle will take us all week and we might not get to a lot of the tangible unit lesson plans. But I have talked to Carl about having me being able to come, if your community is meeting and you want me to come and bring half of the WCEE library for 3,4 I’ll do that. And that’s something I can do for communities in the future. If not, thank you very much.

Transcription, Data Source= T2
Tuesday July 15th, 2003

{Emily} All right the recorder is on (trying to get their attention), hey if I would have known that’s all I needed to do!

{Teachers} From now on Emily, just stand there

{Emily} All right, well good morning everyone, thank you very much for yesterday. I was very excited about what we had accomplished and if I am on the same page as all of you, my understanding was that we wanted to spend about an hour this morning fleshing out some of what we are going to do in K-4 and then 5-6, we’re going to continue to think a little bit more about actual tangible things. One of the first things we wanted to talk about was, what is the format that we are looking for? So that we all have some consistency and then we’ll probably break up for awhile to continue that process. Does anybody have any preferences for a format, what would be easy for you?

{Teachers} What if we used that one, where is that now that you just showed me? Something on this...

{Emily} We do have one like that.
{Teachers} I don’t think it worked as well. We also have the format we used last year for specific units.

Isn’t that more for units?

Yeah, that’s not a curriculum.

{Emily} And once we have the content and the process, I actually have all the standards online. I have them for EE and Science. So those are things I can email to all of you, you can put them on your computers, and correlate that way. Well what would be the most useful? Would it be useful in the table form? You’re the ones who are going to use it.

{Teachers} We’re the ones who should make the decision.

Carl has an interest in having it look like the Science curriculum.

Where you put the topic down and then the standard.

That makes sense.

But we don’t have to be consistent with the activities...

What is the format like? Sara and I are new here can anyone explain it to us?

It’s just the Science curriculum, the one we looked at yesterday.

{Emily} One thing I that I also understood is that we wanted to make sure for K-4, that we take a look at what the Science standards or the SPSD referred to before, what were you doing? Because this was pretty specific to what you wanted to do, but then there was still what did we do before, that everything that you’re going to teach in Science is represented? Everybody knows what is being done at each grade level. So I think that’s an important consideration too, that its not just what am I doing with the site, or where is my EE curriculum, but what is all of it?

{Teachers} See and that’s kind of what 5-6 did yesterday. Can we use their same format by putting odd year, even year and then listing your titles of what you’re planning on doing?

You could do this and then slot it into sort of that Science format, you could still do odd years and even years but then have that topic and subheading, so it’s standard and includes activities.

You could start it this way, and then come back as a large group and start sharing on a big chart and then start with the one and look for overlapping.
We’re going to have to include objectives, but if you put a bit more, like what do you want the kids to get out of it.

I don’t know if we’re going to get that detailed, because we’re first creating something.

That’s true, but what part of the Science curriculum are you doing?

Right and just fill it in as you go

We also could include vocabulary or whatever that we know that we’ll want. Last year when I talked to Karen Halverson, she said that she would like to have aligned with the standards but she didn’t care if we didn’t list specific objectives because those are addressed in the standards and that she’d like it if it had our assessment tools.

I agree with you on using that format. I remember doing my insect unit and pulling those standards over so you had to do that for a class. Anyway, like yesterday’s activity—could this be environmental education? Well, well we can make that work, you know

And so I think it’s not like an objective. You want the student to be able to complete a diagram, or something like that. There’s nothing like that.

Well do we want to have something that has a main topic, learner outcomes and some vocabulary?

I think if we can

Right and we can always fill that in later. You may not know specifically.

Okay they always have something specific for the water cycle, they always have something for food chain, they always have something for erosion.

I don’t even look at it. Now you’ve read it, you know more about it than I do. I don’t even look at it that much, we’re not supposed to.

{Emily} The other thing too is that I do have a copy and I know I have it here of how are students did, not necessarily on the 4th grade test but on the 5th grade test that we did and there were things like food chains that we were very strong in. And there were certain things that you could just go through and see the topics that we seem to be doing very well in already. I don’t know if that helps at all.

Well all right, what if there was something, what if each unit went out and kind of decided to flesh things out. But then maybe you should keep a list of the things you cut, we cut space, we cut energy, we cut whatever and then when we bring it all back we can see, okay nobody did that, so it has to go somewhere. Where does it make the most sense? Given what you already wanted to do?
{Teachers} Can I back you up? Okay, question is are we looking at literally making this whole year environmental ed and then getting rid of say rocks and minerals or are we looking at what we want to teach in the environment ed section and then the other Science topics are things that slot in when we’re not doing that?

I think we want a document that shows all we teach including what we teach with our focus as environmental ed. What you teach with that focus, but that it still has everything else that you are teaching in Science.

Oh so it’s just Science and not Social Studies?

Well this year I think its just science that we’re supposed to be focusing on.

{Emily} And I think the reason we started with Science is because Science is the thing that is the most easily associated with environmental education. And that certainly, if you think this would make a great literature connection or here’s a great social studies connection, no one is going to come and say, “No, I’m sorry we only are doing Science” so be flexible, but at least we need to come out with a Science document at the end. Just what our Science curriculum is at Jackson.

{Teachers} So, we’re developing a Science curriculum for Jackson, we’re not developing an environmental education curriculum?

That’s what I would say. The thing is that it would be too large to try and do the whole environmental ed curriculum areas.

Oh, no no I meant, a separate curriculum

I think, I thought that it was a Science based and how are we infusing the environmental ed? Know what you’re adding.

And then we’ll still need to know what were doing specifically with the environment. But it doesn’t need to cover, we have checked with...

I know that

It’s our choice to cover because we feel there are reasons, you know its going to come up in test question, we have this. But we do have some freedom as far as P122...

And Tim you know, as far as Junior High, you can let us know if there’s something that we’re missing. We want the kids to have some background knowledge in, if he could let us know and look at that.

I’m wondering if it would be devisable to try and do both, making sure we get the little picture at the same time from each grade level but also to look at the whole thing—what
is everyone doing. We’re not at the point yet where we need to know everything, but we need to have the topics at least fleshed out so that we can see, for example you can’t put water cycle only in Kindergarten or 5th grade, but try to build upon it. Okay, so which format would be the best? We could do that, set it up that way, and then we can look at it and go back and find activities.

And some categories might broad, one category might be plants and plants are used across the grade levels but what do you choose to teach about that in each grade level?

And remember what your looking at here is what do the students learn, what does this all mean? And just because you covered it, doesn’t necessarily mean they learned it. I briefly discussed it, in 2nd or 3rd grade you teach about a plant but you don’t go into cells or maybe that there are cells. But in the next grade level, there’s some building upon that.

Another possibility is to just look at all the things that you do, you know, what did you do last year? Make a list of what you already do and then make a list of what you’d like to add. Maybe list everything and then cross out what you’ve decided to drop? I’m trying to think of a way that can make it easy, so we can see the whole picture without going into too much detail so we can’t read.

{Emily} And I think there’s still an opportunity, I don’t want us to think that just because you teach about space, you’re not doing environmental education. Is it addressing one of those subgoals? Is it helping them to become an environmentally literate citizen? (Teachers respond yes.) Then it is EE, you could be talking about something that we don’t traditionally think of being environmental at all but if its still part of those subgoals, it is EE. You went through yesterday and categorized all sorts of things that may not traditionally been thought of, but it taught a skill, it taught a process, that is necessary for this ultimate goal.

{Teachers} You know when you’re teaching space, I make these connections all of the time, you compare and contrast the surface of the moon, the food chain are ultimately connected to the sun so you can learn about a thing. So you know we can do those connections.

{Emily} Okay so does everyone have a fair enough idea about our expectations? How long would you like? Do you want to do, like check in, maybe after an hour? I’ll go around and check up everyone to see how they’re doing, around 9:15? That’s 35 minutes. (And what if we’ve just started? Teacher question) Oh that’s okay; you’re the one who’s going to tell me when you’re done. You’re the group that needs to decide, okay we don’t have this all fleshed out but we are comfortable with where this is at.

{Teachers} Let’s clarify what you want us to do. You want us to chart…no?

{Emily} I would say you want to look at the science curriculum of what you did and I don’t know if the school district is, or if they were one in the same but I would say you’d want to look at how do some of these things fit into that? You know, they know they
have to teach about body systems, but their saying we’re going to teach about body
systems while looking at prairie animals. Or we’re going to, I could help you try to
brainstorm some of those connections. Then markers and paper is over here...

(Broke into small group time—no taping of that, shared curriculum)

{Teachers} K—discussed her curriculum, talked about how she puts things into context with other
subject areas; seemed quite flexible with changing what she covers in her curriculum, “I
haven’t been doing simple machines, but I can” (K is easy to infuse). Major topics:
weather, seasons, living things—animals, plants; human body—senses. Took out? No.

{Emily} All right, so if you had to give me five bullet points of what you teach about in
Science, so my lovely secretary could write them down, what would you tell me?

{Teachers} Well, which points do you want? Do you want from our curriculum?
What we’re trying to do here, is develop a scope and sequence so if you look at the Earth
and Sky, what’s the main concept that the Kindergartener comes away with?

Okay, uh—weather, to include the seasons, and I guess that would condense it. Okay,
living things—I do a lot with animals. Human body—body parts and functions, senses.
Plants—changes over time, parts, trees. Also, what plants do for us? The food, the
cleaning of the air. Building observation skills with color, texture, size, weight—those
sorts of things.

{Emily} Okay, anybody have any questions for her and would you say that, I know you.
got off of the Science curriculum, so is there anything that you took out? That you
didn’t want to teach. I mean you didn’t really have a Science curriculum for
Kindergarten.

{Teachers} Yeah, we do. Now, we do. Is there anything that I took out? No. The red is
the curriculum that is, the asterix marks what I have been teaching. Okay?

Okay when you say plants—say changes over time, are you talking about evolution or
seasonally?

Oh no, we’re talking about seasonal changes.

You’re talking about the life cycle of a plant, right?

Okay, the sequencing of growth. We don’t talk much about it dying but—sometimes we
observe that!

1-2, ——discussed their curriculum cycling odd and even years, Insect unit—body parts
and how they adapt. Ways they move, how they change and included Science butterfly
kit. Dinosaurs—change over time, fossils, adaptations, comparing sizes and weights.
Properties—classifying, sort, choosing a criteria. New—habitats around the school, characteristics of each habitat, animals and plants that live within habitats, Secret Formulas—scientific process (using kit and recycling); healthy habits; pond and aquarium kit, seasonal changes.

We went to Schmeeckle and had some of the environmental ed students and had a great time.

Now you have the same thing, you talk about changes over time in your plant unit? Habitats and change over time, you might want to clarify that.

This is seasonal. Okay.

I mean, it’s obvious to you and it’s apparent to me, but dinosaurs are change over...maybe evolution?

3-4 —energy (introduce the forms—energy and heat, potential and kinetic), trees, birds, bridge the gap between 1/2 and 5/6. Matter, simple machines—swing that into fourth grade? Moved simple machines to 1/2, took healthy habits out of 1/2, emphasized to death in K. Forces of motion, living things, matter and energy. Change oceans to Great Lakes focus—very similar between oceans and lakes and talk a bit about water pollution. Plants, flowers, cells—parts and types. Also included vocabulary words for each unit.

You know you guys are just so super. I’m sorry but this is so cool. I went over to someone before, I’m digressing and stuff but when I was at Roosevelt, we never had a chance to communicate P125.

You don’t, you don’t. That’s why this is what we need.

And we always said okay, we want to do dinosaurs and yet, no it was there and this is so awesome to be able to actually see the flow and then, like you guys picking up simple machines, that is so cool. It’s logical and it really, this is going to have such a great impact on the kids.

And you know what else? I think we all know our grade levels, we all know they can handle.

And you know someone was saying and you said this too, take your oceans and pull in what can be taught and you’ll still be teaching your courses, isn’t that neat?

We are, we are already in an indirect way.

Right and don’t do a separate unit for energy—do it.

So the last, this is going to be easy to work into our birds, our trees, whatever we’re doing this will be really easy to bring into whatever we’re doing P103.
You can’t get to everything by November, that’s when the test is

Of course, you know the other question you can still be asking yourself is whether or not you really want to teach this at an environmental school?

Yeah, we talked about that but I still feel it’s just important no matter what we’re really going to...

And the environment is made up of different types of energy. That’s how I see it, you just change your focus but you still teach the same concepts. I kind of wanted to cut that section down but even if we still integrate it into other areas.

However, if you decide you’re going to teach the matter part, why not teach it in the ocean part?

I don’t think we’re going to focus a lot on oceans.

But if you’re going to teach, are you going to teach the matter part?

Yes

Then how can you make that real for the students? So they can visualize something and try to see what these concepts really mean?

You can insert it in the water, with the lakes. Density, floating, we could compare.

Everything comes back, it comes back to the oceans and how

Plus it goes well with explorers in Wisconsin because if you come down the St. Lawrence Seaway and go into the Great Lakes it’s a natural tie-in for your Wisconsin forestry

And in Social Studies, we also look at transportation and most of our transportation if you take a look at a map of Wisconsin and map of major rivers and then put a map of highways and cities on it, they match. They match exactly, that’s really cool. I mean I could do that.

So what I’m just trying to vocalize is that originally you said, well we don’t really want to talk about oceans, you know we want to talk about the lakes because that’s more Wisconsin. Well that’s fine but now you have this matter and energy maybe it’s appropriate to use the oceans to describe those terms? You don’t have to talk about the ocean floor and those things that you crossed off, but you might use the ocean to describe buoyancy and density and whatever else you want to.

So from there we’re going to take and look at the EE stuff with forestry and possibly birds
And when we looked at trees a lot of it falls into social studies and that’s what Gale is thinking about teaching our fourth grade social studies on and I teach fourth grade science and we talked about trying to bring those things together. So we were talking about if I was doing, say plants and she was doing something that also had to do with trees also.

So can I ask, when you say trees and birds, and 3 and 4? Three and four are the emphasis in both?

Yes, they will be. Trees will be like this year for both 3 and 4. And we have to talk about that, how we did Birds this year wasn’t really infusion. It was more insertion and it was just a way to bring our unit together to do something that was environmental and we took a whole day once a month. And it was just like an awareness type thing and some skills. To get the kids to look outside, I guess that’s what we were trying to do.

And that’s a great start, I mean your first year in, doing something like that is a logical

So that was just the starting point for us, and maybe we’ll change our mind this year with the trees—I don’t know. But I came away, I thought we, I thought the kids loved it, they looked forward to the days, they learned so much. I mean it wasn’t anything we taught, they were seeing birds at the feeders and identifying them and it was just because we added it.

So it really is something almost separate from.

Yeah it was, it was. We really didn’t do it within our science curriculum. We didn’t talk about it there, if it came up and the kids brought it up, then we talked about it. But we didn’t try to make it apply.

And this year what we’re going to try to do is we’re ready to take the next step where we are trying to integrate it and we’ve got the books and things. Our next step is to fine tune that, to find the activities. So that will be our main goal.

But now let me think to make sure I understand this. So then the tree stuff that we do this year will be the cycled part, if we cycle the birds and the trees?

Right and we’ll have third grade activities and fourth grade; we’ll have activities that we can share. Okay, all right? We took a long time!

But I think that’s okay, you know? Third and fourth grade, we’re right in the middle, you know they’re affected on both sides

You made a lot of progress.

Oh yeah
5-6—Well I think from what you said, we were worried about how to time it but a lot of that is addressed in 3, 4 and we would continue to improve it into our Science animal unit but we wouldn’t need to worry about the basics they would already be there. I think we had talked about, making some instruments and using them, charting weather patterns, you know interpreting the results. But you have already...

I have a question, one of the things I brought up and maybe you can tell me if this isn’t developmentally appropriate or if it’s something you don’t want us to do. I was thinking it’d be kind of neat to let the kids investigate an instrument—a scientific instrument and do a mini report on it for our Science so they are aware of the many different instruments so they have a little background knowledge on it. I was thinking maybe the kids could see a little of big of the history behind it.

And what they’re used for so by the time they get to our level they could build on that and then actually use it, that would be good.

I think if you look at what 5, 6 originally did that we weren’t sure how much we were going to get to, the two areas were the solar system which you cover nicely except for constellations which we’ll do with the Civil War and Earth’s Riches.

And what we did with energy, we put forms of, we want to include the static, the electric, the solar and the magnets. Because that’s huge when we talk about...

And I would be appreciative if you guys would do more with magnets

Well knowing how much they struggle with it even in 5, 6, I can’t imagine trying to teach it in 3, 4.

Also would have literature that we would use to teach some of these things. We want to integrate things P180, that’s how we hope to teach a lot of our concepts in science.

And then like for me, what I could do, is I could write with Earth’s Riches—with mining. And she could maybe slide that into Social Studies because we have the Badgers and things and that’s such a slick unit. When they’re doing rocks and minerals, they can look at the rocks that were mined in Wisconsin and they can look at, and they will really identify with it because it’s really cool, with the badgers and stuff. And I can give you that and that would be something I wouldn’t have to cover and in the fourth grade curriculum you would be covering that in. There’s a lot of nice easy, mining things you could do and just tying...

Are you saying you’re studying the badger at that time?

No, we don’t study the animal the badger. I’m going to do a history for you. Wisconsin was called the badgers because of the miners and what they looked like when they came out of the mine.
Because we do that in literature

No, we’re doing it in Social Studies.

One of the thing that we do in the 3rd and 4th grade, we always do in the first couple of days, so they get to know all of the teachers, we move and they stay in their rooms and we do just a little activity with them so that they know who we are and that they are part of our community. If they see us in the hall that we’re a Community 2 teacher and so, we’re thinking we would do different tree activities—just appreciation, from PLT, we had a product and they were all products of trees

I would like just a little clarification, when you talk about trees what sort of topics are you going to be discussing? When you say birds, what sort of topics are you going to be discussing? Maybe you should start with what do you do in 5th and 6th grade in birds or trees to make sure that you don’t do the overlap.

We basically do the same thing with animals for each group, we talk about the body systems that they need for that class of animals, or how do we classify this? Or adaptations...

But do you go beyond? I mean basically the simple things for birds are wings, beak...

We want to go beyond that. Initially that was in our unit, we would talk about why birds can fly and not mammals. We studied their bone structure, we studied their wings, I have wings, I have feet, I have all the experiments for adaptations for their beaks and their feet. So if you’re going to do that, then...

We did the beak one, with the tongs and...

Right, but see that was already in our...

It’s in the Science book that we have for fourth grade in adaptations.

But, in every grade that you study birds, it’s in that book

The same activity?

Yes.

But they don’t have the same series that we do, anyways.

I’m going to insert something too. I’ll talk with another teacher because she and I do the same unit and I know she’s dying to teach it. We both do Birds of Prey and do Owls in the Shower and um

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We do too.

And see that's uh

We didn’t do Owls in the Shower necessarily, but we have. We do Birds of Prey, and we studied owls, hawks, peregrine falcons, etc. etc. etc. We dissected owl pellets, we looked at different structures, I mean

Well okay, how about, could we do it this way? Maybe we could swing it slightly different. You do Birds of Prey and we could do the songbirds and things

Well that’s kind of what we did. The only time we did anything, we did the beak activity one time but just because that was we were talking about beaks, we were talking about birds eating food and that’s the day we did the bird feeders too. But then we didn’t just talk about birds of prey, we talked about hummingbirds and why they have that kind of beak. We did read Owl Moon which I think guys by the time they get to 5,6 you might not want to do that because that’s not, and we did the hand motions and stuff and the 5,6 kids would never do that. You know we did the things that we thought were appropriate for 3rd and 4th grade. We didn’t do all of the other stuff.

If you did the song birds that were native to Wisconsin area

We picked how many birds? Five birds a quarter to put in there, what they called their bird book.

We did have a guest presenter bring in an owl and a hawk, oh a peregrine falcon.

From the Antigo Rehabilitation Center.

And see we had done that before too.

You can talk about whether or not you have that presenter come in, it’s obviously about what birds that presenter has available. Its not like you can say, bring in that bird.

Quite honestly, some of those kids were so excited that they wouldn’t care if you did it again at a different level.

Sure, but it needs to be spiraled P181 I mean you can’t teach it once and think it’s going to be there forever.

No but if they taught the birds song birds, but they talked about that there are other birds, that you’ll be studying later, the predatorial birds and then they get into the more specific.

I think we did put a Great Horned Owl in their book because it’s a common bird that they might, you know we tried to pick birds that they might see and at what time of year that they see them in.
Yeah and I have their wings and their feet...

You can still do that though

Right, so if you don’t do the predatory birds then we can take that point and maybe talk about birds and comparison..

And ones that are related to prairies and wetlands too.

But do you guys do Owls in the Family?

No.

So could we do that book if we wanted to in our literature?

There’s Owls in the Shower, owls in the...

Owls in the Shower I think is a little more difficult than...

Right and I think we have that book? Don’t we? Yeah, because we might get kids that are lower. What I think would be beneficial is if we look at what we’re teaching and then possibly say particularly I guess 3, 4 “What book might we use that we could fit into learning about….”. You know, just so we can start thinking about that.

You can always planned that along the line we would talk about do you have books that really, really just so perfectly fits with my unit? And then we won’t use

And that’s good because then we won’t use them

And then we have some that we really don’t want you to use as read alouds because we use them next year. ( 

I think that’s a really good point because at 1st and 2nd grade that could happen

And not that there aren’t a lot of books out there that could be used instead of the ones, but we already have ordered copies or they’re part of another unit

And in this rotation if we’re going to use trees this year, maybe focus on next year when birds come back up we can really start trying to tie between that. We’d have a year to try it. And after that we’d have two years under our belt of infusing, it’ll be easier to do.

{Emily} Okay, you guys, do you have anything to add to what you showed us yesterday?
{Teachers} Not really, we just put down under energy the electricity and magnets, the solar system we altered but we could tie it in

And that was before we realized that we do in fact cover a lot of the same things with 3, 4

The only thing is, we didn’t put on this one we would be teaching, and we could do it all in one, we had reduce, reuse, recycle and why it’s important and then getting to the composting. Well will we do it with the kids this year, because we did it last year?

{Emily} Well that’s actually is a good segue into one of the questions that I had. While you were going through a lot of what you’re talking about is Science. And you’re talking about things that exist outside of us, even if you’re talking about living or nonliving you’re talking about Science. You’re not talking about man’s connection to all of it. And yes, some people might say that’s something that’s strongly focused on in Social Studies but even something that’s as simple as Weather, why don’t you do, there’s a program that’s an Internet based program where you could be doing, the kids could go out every day and take weather measurements and they could learn more about that larger scheme and its perfect for 3rd and 4th grade. It’s something as simple as reading the high and low temperature of every day and marking it down on the computer. So there’s a lot of, that’s one of the questions I had. You’re going to talk about 3Rs, why is that important? Or how do we use some of these resources?

{Teachers} I think that’s our whole philosophy when we got started it is to make the student body and adults aware that we need to look at how we’re using natural resources, or the paper that comes from the lumbering industry and the waste we have and so we did get everyone spoken to by fly fishermen and they had presentations and we set out recycling bins and the one thing we need to target a little more, the kids are throwing garbage away in the recycling bins. And they’re bailing it out once a week and I like that, it’s giving them more ownership P133 and an understanding of what can and cannot be recycled.

I have a quick question; I don’t want to forget this. Is there a place like, either within literature or within science that we would do some sort of study of conservationists, of important conservationists of Wisconsin or conservationists in general?

Social Studies

I know I’m planning on doing it in Social Studies.

Okay

Well we could, if we’re going to do what I’m thinking, it would be a wonderful combination and we did famous scientists and famous Wisconsinites. And what we could do and change it, and you were talking about looking at inventors? Somewhere—aren’t we? And why couldn’t we do a literature unit on biographies and they have liked the Rachel Carson biography, and we could do that…
When we were doing our biography unit, I read about Gaylord Nelson.

And so we could link inventors and famous conservationists and link it into a biography and a science unit.

Okay.

And in the Wisconsin unit, with forestry and social studies we would get to the famous, and we could bring in um, there’s uh where it is, in a forest history CD there have famous Wisconsin forestry people that we could get into, Increase Lapham and things like that. And we could use inventors and that with Science.

That was one thing I also thought we could do.

{Emily} All right, so I guess I have a couple of questions for you. First of all, I know I could go and I could pull these out and retype them and create them into a document so we could have and be able to see what each grade level is doing. But what I’m wondering, there’s a lot of things that have been discussed, that you still have a better knowledge of your curriculum than I do. So, does it make more sense for us to come up with a common format that you would type this up and put it all together?

{Teachers} Well we just started, we’re doing composting and we’re making it (Karissa’s typing) like an outline of things we’re talking about, things underneath each part and then we’re going to list things that we want to do, that’s what I think is important so that

Then, we can look and see what state standards apply to them.

Not only that but once we have the basic learner outcomes we will also be better able to say, in space, we overlap this we had those too, we don’t need them in our grade level. Right now we have the big topics we need...

Do we want like letters like introduce, review, what the like, mastery—do we need that?

I don’t know, I don’t know, that’s what we’re asking.

Probably your learner outcomes, at least we’d need that. Well don’t you think, for example with your weather unit, when we look at all that you have there, if you have learner outcomes that are similar then we can say, we probably don’t need to do that, or we can take what we have a step further and change our learner outcomes.

I don’t know if this is...

{Emily} Well, again it’s what’s the most important part? But one of the things that Denise is doing, she is trying to write down each of these major topics, so we have Earth and Sky and this is what they do in K, but then she has space for the rest of the grades.
Or for Living Things, what’s covered and I think we need to, what you’re doing in terms of the outlines and the learner objectives, that’s fantastic, I think we would want that but I also want to know if you want this? That you could see across?

But I would think that once you have K and their learner outcomes, living things and then... shouldn’t we have what we need?

You’re going to want the top as well, as what’s covered on that side

To be the same and I was trying to figure out what that might look like...

Okay but if you have animals, and everyone’s going to have animals but on the page she has learner outcomes for whatever, for 1, 2, we will be able to see are we truly progressing as we would expect from Kindergarten thru sixth grade in terms of animals skills or are we so focused on habitat that we are missing something else....

-END OF TAPE 2-

... 

{Emily} ...segue into what I’d like to do next, Tim right? Thank you very much. This is what I was going to suggest—we have done an excellent job with this and we really have a nice idea of what we are going to cover in Science and we’re starting to make more environmental education connections. But now I think we need to talk more about these processes and not just scientific processes, but think about those five goals of environmental education—we want to teach kids skills, we want to teach them where they fit in, yeah—how does that go again?

{Teachers} A kind voice saves the planet

{Emily} Right and so what I recommend is that we take a break and we come back and start generating this list of skills, this and maybe we just start by brainstorming and eventually we want to lay them out by grade levels because we can start looking for some natural connections. Obviously some of these are going to be more; it’s going to be easier, let’s say to teach the scientific method. But maybe some other skills that we’re going to talk about aren’t just going to be science related skills.

{Teachers} That’s one thing I learned a lot about in that science inquiry class last year is that the way I was teaching the scientific method wasn’t right.

{Emily} So why don’t we take a ten minute break and come back here at 11:30 and we can go from there. Okay?

All right if I can everyone’s attention please. If you have this document, please pull it out—this is the document you created. This was your vision statement. Its okay if you don’t, I’ll pass it around. We’re at the process now, or the process stage I should say.
And I just had kind of a brainstorm that I wanted to throw past you, what I originally thought was that we would brainstorm a list of skills that we think, you’re the one who said the very top thing you wanted your kids to be were stewards of the earth. What does that mean and a lot of that is not just knowledge but it’s a skill and different things that they may know how to do. We watched a video yesterday that talked about skills and values and those types of things in environmental education and my idea that I thought I’d throw by you is that we’d actually put all five subgoals up here of environmental ed and under that we’d brainstorm the processes that accompanying that. So for example, for awareness you might put observation, identification, that sort of things.

{Teachers} Just catch words that would go along with that

{Emily} Yes, right because the other thing is, once we have this part figured out we’re going to want to have, I’m not sure if want to have a rubric, we want to lay out a scope and sequence? Something like that for these skills and there already are certain goals that are identified for certain grade levels and that would make it easier to insert it into certain grade levels that we want to teach these things at. And you already teach these things at each grade level.

{Teachers} And it doesn’t have to be just science. It could be English and writing or whatever. Like describing can go into language arts.

{Emily} Right, so does that sound okay to everyone? As a jumping off spot?

{Teachers} Are we going to do it all together

{Emily} Yes. So what are the five subgoals?

{Teachers} The first one is, uh awareness

{Emily} Okay, what’s next? What else? Yep, Knowledge.

{Teachers} Values.

{Emily} Skills and, the other thing too is if you pull out the EE guide there is more of a definition of each one of those subgoals. These are some of the reasons why, the kids need to do...well that’s what I think you need to decide, if that’s what you mean when you say steward of the Earth. All right so if you have your EE guide, the one I gave you yesterday and you turn to page 16 when they define, when the people who wrote this book defined, each of these subgoals they looked at different skills and you can see that on the left hand side, these process skills that students would want to do. Now what I’m proposing is that you look at that and try to figure out if when you yourself would define what it means to be a steward of the earth would you say then—that you want your students to observe? That you’d want your students to classify? Are those parts of what you mean? Because I don’t want us to be dictated by this grid but we can use it as a jumping off spot.
Well with the inquiry method and what we had to do last summer with that class, a lot of this overlaps.

They have identify, they have observe, they have classify, categorize

Sequencing.

But then there’s also one for developing values that will have all of these process skills.

Right, we can pick the ones that we really think are?

Yes. That’s what I’d like you to…

We need to observe.

Okay.

Right? Classify and sequence, sequence is big.

Is that a knowledge or awareness?

That’s an awareness, they have it under awareness. You can do that an awareness at the Kindergarten level.

Measuring and quantifying.

Sequencing is next.

Do we want sequencing?

Yes, we do it in Kindergarten.

Sure over time, over time

But also, like in um sequencing the stages of the growth of the seed. That’s awareness

One of the activities has them places pictures of living specimens in order.

Okay.

Understanding spatial relationships.

I think we’re going to find some overlap
Emily: Yeah, but if you look at the ones that you did for key competencies, they’re not in every category. For example, questioning may be a skill, that you want kids to do that’s not an awareness. Inferring would probably be a skill. How about analyzing?

Emily: Skill?

Teachers: But then that’s all under awareness and then it goes to knowledge

Emily: And that’s actual content of what it is and I didn’t want us to start there because I wanted you to generate your own knowledge for each skill.

Teachers: And then do you want us to skip to uh...

Emily: Well is that all we want here too?

Teachers: Okay, let’s finish these things here guys.

Emily, you are so patient

Emily: That’s okay, this is your time. What you accomplish this week is what you accomplish this week. But I mean it that way; you’re the ones who have to live with it.

Teachers: Well and they put receiving, responding, valuing

Emily: No that’s the taxonomy.

Teachers: The taxonomy—how about?

Emily: Well and I’m not saying we have to go straight from there. But what do you think about for skills, I may say that a skill that I want kids to have to be an environmentally literate citizen is researching, comparing and contrasting, looking at viewpoints, writing a letter. Those are all skills or participation may be understanding the voting process. There’s a lot of different ways to look at this and it’s not just these skills, if you look at this grid, they say you wouldn’t want to look at these skills until 9th-12th, or 6th-12th grade well you’re going to teach kids how to question or infer and measure long before that.

Teachers: For participation, would it be making choices?

I think there’s a difference in your environmentalist view of what you want for awareness, values, skills and participation and what I think of in the science processes

Emily: And I would like to merge those together.

And I see that. I understand.
And I can’t see what we’re tying together right now
And I’m not sure what you’re doing either
How does this tie into what we’re doing over there? I’m totally confused.

Okay, she wants, Emily maybe I can say it. What she wants us to do is look at, what we want our students, using like if we were writing learner objectives, for our students, what are things we would want the kids to do to develop their awareness of the environment. If you were observing, like Char would be taking her students out in a walk through the forest observe the different insects and that would give her an awareness of it, okay? Maybe she would take the Kindergarteners out or bring into her classroom and she would bring in living and non living things and she would have them classify them—right?

{Emily} Right, and maybe it’s not a good idea to put them into these categories. But you know when you came up and did this visioning, the one thing that I went and I kept saying to every single group was what does that mean? You want your students to appreciate nature—what does that mean? You want your students to be stewards of the earth—what does that mean? And I think that as a staff you need to decide what that means. It’s not just what your teaching kids in terms of skills, or in terms of knowledge but there’s still, you’re teaching kids values, your giving them an awareness of the environment. And I don’t want us to get away from that as we’re working on this. And I think that you need, how are you going to know that a sixth grader who graduates from this school is a steward of the earth? You’ve told me that’s your goal—how are you going to know that? What are things that they’re going to be able to… I don’t know.

{Teachers} Did you divide it up that way because of this chart? Where if you did awareness…

{Emily} Potentially.

{Teachers} So if awareness was potentially K-3, so this would be the skills they would emphasize?

{Emily} Yes, I was thinking it would be easier to do that.

{Teachers} You said yesterday in the video that those skills, they don’t come into play until 6th grade, 7th grade? Middle school area?

{Emily} Sure—but it depends on the skills that you’re covering. Like, for some of these…

{Teachers} That’s why I’m asking because at that point you’re looking at skills like, perhaps ah
{Emily} Like issue analysis that might be a skill. That’s good for a 6th grade, or a case study.

{Teachers} I think that when we made that chart the other day and said what does it mean, personally I wasn’t looking at it just as what would a graduate of Jackson school be able to do as a sixth grader, I looked at it more long term. I see them more actively involved in civic issues related to the environment—but not in sixth grade. That because we have laid this foundation for them that in say junior high or high school and adults they will be more likely to be participants so in some ways, what we want to be monitoring is even beyond the years we teach them to see if this is happening. But, obviously in terms of what we look at now what we’ve got to, if you want that kind of assessment then we have to come up with things we should be able observe and measure by the time they leave sixth grade. And for some of those it’s going to be really difficult, because sixth graders don’t have a chance to be actively involved in civic issues. We can say that they are recycling more, there’s less litter on the playground then there was before.

Okay but in environmental education what they’re looking at is not necessarily promoting things other than giving them skills to be, when they define citizenship in lower grades it is a person that is um, active in their community. Volunteerism is part of being a citizen, so it isn’t just say voting or running for office or knowing what that is. To be a citizen is somebody who’s aware of the issues, um within a place, being able to think, okay what are the ways we could improve it and then you know, doing it.

I’m still not sure that sixth graders have any of those opportunities. Sixth graders who volunteer are kids who parents volunteer

Whose parents volunteer

But see this is why when we go to the EE curriculum, or we’re looking at it, we as a school can start providing avenues for kids to do that, here at school. And we can also provide too them, this is the other thing we’re looking at, is providing the community resources which are good role models as citizens and maybe saying, hey when you grow up here are the skills you’re going to need to be a functioning, well rounded person.

I always thought that awareness was like our biggest issue here in at least the lower grades, just making them aware of what’s out there. Like oh my goodness, there’s an acorn, did you know that acorn is really a seed. And from that base, I’m building the bottom of the pyramid of the triangle. Um, I think they need to have that base of appreciation and they even said that in the video yesterday. If they don’t appreciate, they’re never going to go on to the next point. It said something like that, what did Tim quote? If you don’t love and respect nature then you’re not going to defend it. P176

{Emily} Right and I think, I’m not saying that this is the right way to do it, but the reason that I’m coming and saying this to you is because there’s a lot of research that says if you just teach them the knowledge, you just teach them about the plants and the animals, it
doesn’t change anything. That’s not enough and if you are the ones, and maybe I misunderstood, but if you’re the ones who are saying that you want your kids to be stewards or you want your kids to be problem-solvers, or whatever that is, then I thought it might be good for us to spend some time thinking about how we’re going to make that happen. Because its not just that we’re going to teach them about energy and heat but maybe we’re really going to have them think about, we’re going to have them do an audit of the school and think about how much energy the school uses and some of the choices a school makes in terms of energy. That’s something that has to do with values; it has to do with skills.

{Teachers} They’re going to add 17 minutes a day, its going add $15,000 is that because of electricity? Staffing too?

Transportation too

Only if DPI approves it

I was just thinking energy—there’s a way you know? There’s an example

{Emily} Right, right. Exactly.

{Teachers} So I was going to say, maybe what we need to do is not list those things but maybe as we go through and list our more specific learner outcomes, we keep that in mind, that as we’re doing energy, obviously we have already talked about conservation, management, renewable, we just need to make sure that as we’re designing learner outcomes that somewhere in there we’re putting...

Observing, inferring

Or else we’re putting some things that get to that value part, making judgments—you know, um the evaluation part do we say, if we compare two different forms here what are the pros and cons for the environment for each of these.

Maybe instead of trying to divide it up by, continue on this track with some other skills like issue analysis and just try to brainstorm some of the skills, see if you can get them hear the words and just try to think about-

It’d be good to have those words

We can put those in there, if you’re going to talk about pros and cons, you’re going to talk about issue analysis, not just pros and cons but what’s the problem, what are the different stands, what are the alternatives that you mentioned, what are the proposed solutions? What are the alternatives?

What did we discuss yesterday? One thing we have to get away from is people saying this is the right way to do it P178, but we make them more productive citizens if we teach
them that first of all you need to identify that there is a problem or at least some alternatives, how do you analyze the benefits and the disadvantages of each of them and then how do you as an individual make that decision? You might not all make the same one and that’s okay.

Right, and like when Perrier, a lot of people were upset with Perrier, should they drill or not? Well how did people come to their decision? Some people just said well my mom or my dad or my friends, or purely emotional, but trying to make sure they understand that a lot of people make decisions that way but you’re trying to teach them a process and say well you may have an emotional reaction but you have to go beyond that and say—who are the players? What are their opinions? What’s the science behind it? What’s the sociological and economic impacts on all of these things? And research it all and then come up with your decision. Base your decisions on something more than just your feelings or emotions or what you mom does or your dad or whatever.

Well and like we talked about yesterday, the issues need to be personal to them. That we could say to them we’re going to discuss land use but unless it’s their house they may not care. But something to do with the playground or something to do with-

You have to base it on Jackson Center, so that’s what we have to start with that base. And even the Kindergarten things can look at that and say some sort of-

I don’t want to be a—but it seems to me that, and again I’m trying to make some value judgments myself but the knowledge and the awareness are the content that you’ve decided to teach and pretty much label that out, we’re going to make kids aware of habitats, and energy and space and trees and birds and knowledge and then the skills are the processes, the cause and effect, they’re making graphs, issue analysis—those are the processes of science. So you have the processes in the skills column, you have the content in the knowledge and awareness, the problem is how do you as a group guarantee the values and the participation? So what you need to do is as you look at your learner outcomes and that sort of stuff, you need to make a little bit of a note to myself—ah, these are all the contents, yeah I understand that, these are the science processes but at the same time you can say, this a great place to show the kids the value of the habitat or a great place to show why trees are important and why is important that we use certain types of energy and why-

But, Emily—put why important under values and see--

{Emily} And important to who?

{Teachers} Well then the participation becomes part of that.

{Emily} Because again you can’t just say why is this, what’s you know its not just, and this goes into my philosophy too but its not just standing in front of this tree and saying why is this tree important to the environment? Why is this important to the birds and why
is it important to all the animals that live here? But why is important to me as someone who wants to build a house? Or what is the economic value of this tree? So it’s not just—

{Teachers} So what are the choices?

And what is the aesthetic value of this tree? The stuff that’s hard to measure.

Okay and then, put why is it important to who and what choices, let’s use that word, choices would be something under values. Or participation?

{Emily} Yeah, acting on your choices but this is just maybe even knowledge is just what are your choices?

{Teachers} I was going to throw that into values too

Values and choices

And look at uh, what I value, what you value may be two different choices so, I’m right.

We need vocabulary that is common to all of us, yeah right and yes.

How do you present participation to the students? Are you going to try to provide actual experiences here in school?

Like your recycling, or planting.

Otherwise let them know about other ways to participate that they might be able to do at home or as they might think back to when they’re older and say, oh yeah, here’s another way. Or letter writing, obviously is one you could do in language arts or social studies the proper skill is letter writing but there’s different types of letters and then how you send it off and who you send it to would the actual participation.

Making their emphasis as an environmental school, if you keep coming back to something that you keep saying a lot, is what is the human impact? Even as you’re looking at energy, or something you don’t always think of as being the human impact, is like. What is that? That is your participation.

{Emily} But the thing is that, yes the role of the humans is huge thing for me, but that doesn’t mean it has to be a huge thing for you.

{Teachers} Whatever the topic is that we’re focusing on with the knowledge and the awareness part of it, to make sure we tie in some issue that is, because in any one of those you could pick something that they could

I agree with you, except I think you need to be a little more specific than that. If you’re going to have the kids make a value—
But you know what I mean.

Some kind of role that they’re going to have to take in everything that you study

No but let them realize that there are issues, when they’re learning about whatever one thing that there are some connections or some ways that...

One of the issues that a few of us had with Carl over the last couple of years, and its not a big issue, but we are looking at the Hwy C cleanup and should we be doing that during academic time? And that’s not volunteerism that is getting out of class to do something that is more fun. And um, when you look at the standards and all the different activities we’re going to have in school, you should be looking at things like maybe during recess time once in a while; someone could have as part of recess an activity to do the garden. You know, that they are truly giving up of their personal time, rather than always saying. The problem is there isn’t usually time to do this but we get a lot of kids who sign up for this cleanup, because oh good then I get to go out and do this.

The only thing is, is you hope in the long run that they will have had that experience and say, oh yeah I could do that. I guess you do kinda, we force volunteerism. We talk about volunteers, we force them to go and volunteer.

But I think we could do things like recycling. We can say that we empty these recycling bins, its not done at the end of the day, but during recess time and if you’d like to be part of this, sign up to do it and then let them see-

I think some at times though we do force them to do things, just to give them the experience so that later on they can make that choice.

Right, but I think we can give them options that are free choice that you made a choice here and instead of music you decided to contribute some.

But I think that that should be set up with like Denise set up with the Lincoln Center, for us to go over there and work with some of the people that are in the adult day trips, we made all the kids go and made them all do it. So when we left there they said, oh that’s so cool, I’m going to do this, I’m going to go back again.

There’s some high schools in Green Bay you can’t graduate without some volunteer hours.

Well even at the university level now, part of the graduation requirements in Madison and Point is that you have to count so many hours.

{Emily} All right, okay I think.
{Teachers} Well maybe what we could do is tomorrow, we need to, I agree that we need to get some common vocabulary so that, and then Emily maybe what we could do is that after we get some common vocabulary, then going back, we have to know that we can look at our things and think, we can look at our Science topics and we can take this up to this skill, or we can link to a certain skill and some of it we can link to a participation level. You know and maybe from there with a common vocabulary we can go back and look at what we have and then, think okay maybe these are knowledge based ones, these are ones that we could maybe step it up into values and we could kind of classify them maybe once we get a common vocabulary? And let everybody go back and then we could go back with the focus of looking at the science curriculum and get it to, how can we have the kids be stewards of the earth?

{Emily} Uh huh, do you want time this week to work as communities and come up with learner objectives in these areas? So that is also something I agree, that is something we would want to do so we can come up with this grid. So tomorrow, maybe we could start here because coming up with this common vocabulary which may be part of your learner objectives. But then give you time to write those learner objectives and then we still need to align them to state standards, of course that’s the first thing Carl asked me.

{Teachers} Right, actually all of our curriculum already is aligned to, the Science curriculum documents we are working off of are based on the state standards.

{Emily} Right. The last thing is that we’ve talked a little bit today, we’ve just started to talk about the overlapping of activities so for example, you all—we did Oh Deer yesterday—everybody could think, oh yeah that’d be really great for me to do in this grade level or this grade level, I’d ask you take ten of these tabs and what I’d like you to do before, let’s say Thursday or Friday is go through the PLT, Wild and WET activities and tag the things that you want for your grade level. So that we can actually go through and physically go through and figure out if there’s overlap and then talk about which one is more appropriate for each grade level. Okay?

{Teachers} Now remember that each of these guides has the tables on the back in the appendices, some of them are arranged by topic, some by grade level, so you can use those to reference. However, if you have questions though of me, I can point you to some

So each one of us, needs one of those books? Or if not each one of us, each unit.

I have a question though too with clarifying with what Gale was saying. When you look at these skills and your thinking about it. Where is it appropriate to talk about questioning skills, and at what level? So with questioning—open ended, closed ended questions—when do you use that terminology and do you? And when do you do that in second grade? Or in fourth grade? Or when you look at these skills think about at what level you will covering those skills, or how you would present that information at your grade level. So also it’s also building upon a scope and sequence at various levels.
We had two primary objectives today. One was to come up with a common vocabulary of what we’re going to be talking about when we think about awareness, knowledge, values, those kinds of things and then the second was to come up with learner outcomes for each of your units or for the curriculum itself. So that we can go through then at the end, put this all together and then align it with the standards. Is that what everybody else kind of thought where we were?

Sounds good Emily!

Well I just wanted to make sure that everybody was. No there’s not a plan at all—honestly, honestly. Was there anything else that you, I think the big thing that I had was that we’d be talking about learner outcomes and that a lot of these process kinds of things would perhaps come out with those versus the actual, what we have on our sheet.

I went on the Jackson School site last night for my paper and looking there under charter application they did exactly this, to look at the curriculum and its just one of those cliff notes and it was just perfect. I wasn’t there for the writing but it was very, very good and they had said they wanted to use the district Science curriculum and so, we are doing it!

...  

We’re going to align this to standards?

Yep, that’s what we’re going to do. You’re going to look at your lessons or just a unit for example and then align it to the standards. Karen Halverson and Carl keep asking me that—you’re going align this to standards, right? And I keep saying—yes, we’re going to align this to standards! I thought we’d start with science and EE but eventually you might align it to all of them—Language Arts, Social Studies, etc.

...  

(Looking at visioning document) All right so you have appreciation of nature, stewards of the earth. That was your top one, then you had use technology, and then you had...okay in your top five this is what you had. Number one was appreciation of nature/stewards of the earth, um number 2—use technology, including how to gather tools and how to feel comfortable. Things like digital cameras, movie microscope, how to gather data and then more experiences. Problem solving/critical thinking, act responsibly and then how environmental issues are interdisciplinary including a participation in a seven year scope and sequence. Those were your top five, then your next one was make good choices and then I’m not sure if this was Denise and I’s
editorializing or not but in parentheses it says informed or educated choices with a question mark?

{Teachers} No that was our own.

{Emily} I think so! So we needed more clarification.

{Teachers} So were just probably saying we could act responsibly

{Emily} Exactly. Right.

{Teachers} And then the other thing that Carl keeps saying is that at Jackson a big issue is respect. And so would we take that into appreciation of nature/stewards of the earth and then put respect in there? That is a big thing with the 3Rs.

{Emily} All right. So, well I guess what I need is some guidance in terms of where you want to go from here? What is the best way, do you want to just go to your communities and write your learner objectives and then come back and see how it all fits together in terms of contributing to this steward of the earth? Do you want to further define these as a group before you go and do that? What would you like to do?

{Teachers} I think the consensus is that they really want to go and work on learner objectives and then come back and again, we’ve seen the flow but once we get our learner objectives back then we can see the flow in terms of them and we can almost make those learner objectives like Sherri had said to be a common thread and then we can also make those levels.

It reminds me of how we did it last year. We wrote our objectives and then we looked at the standards that we covered and then we can see, okay are there holes? We didn’t look at the standards first and think oh-

{Emily} And ultimately Deb, that is what I’d like you to do. I don’t want us to start here, much in the same way that as we’ve been doing certain things I haven’t wanted to say, well this is the definition of environmental education or this is what, you know—there are, there has been research done on what does it mean to be steward of the earth? They just call it environmental literacy. What does that mean? There have been studies but I don’t want to come and say, well this is what the EE community says I want you to tell me what that means because it’s your common definition.

All right so you want to work on learner objectives then my next comment is always the infamous how much time would you like?

{Teachers} Three days

{Emily} Well you know we have three days,—Wednesday, Thursday and Friday!
Let’s just get started and then check in, I’m sure it will be an hour.

Okay.

(BREAK for hour)

Okay well what I’d like us to do now, is to share some of those learner outcomes but I do not want to know your cognitive learner outcomes. I don’t want you to tell me that your students will understand and be able to label the major tree types of Wisconsin, just for example. I want to know where the affective part are is because, and I know I just said this to 5, 6 but my analogy would be on Monday we came up with what we wanted for our environmental ed curriculum, on Tuesday we looked at the Science curriculum and a lot of you ended up bringing back the Science curriculum, and that’s fine—and if our school decided that for the most part we’re sticking to the Stevens Point School District Science curriculum as a charter school, and you made that decision, that’s fine—but what makes this school different is that you have the opportunity to be deliberate in developing an environmental ed curriculum. That’s where you can stand out and so what we’re trying to do is develop a scope and sequence for this ethic. How are we going to develop this at each grade level and so that’s why I want to know the kinds of learner outcomes that created that have to do with the building of that ethic. What I’m going to do is just write them down for each grade level and then we’ll be able to see if there are some similarities. You know some of you may say you want your students to love the earth well wow, it turns out K-6 all want to do that. But we can start to see some similarities and differences, is that okay? I’m not saying your cognitive ones aren’t great and I’m not saying they won’t show up in that final document but for right now let’s look at the affective.

And as a matter of fact, from the school district standpoint if we only have appreciate or value or whatever, we’re going to have a really hard time evaluating that.

Exactly.

And secondly, from an education standpoint our business is that standing of cognitive and process and so, you know we definitely need to include that

Sure, absolutely and that’s why too when you look at what your developing at the end of all of this, the end of the week you’re still going to have those standards that you’ll have accompanying everything too and those are going to be the content. They’re not going to be teaching kids to love the earth and bam, bam, bam—it’s going to be composting and whatever, so. All right. Let’s be different, let’s start with 5, 6.

Yeah, that sounds wonderful

No, but that’s because we don’t have as many! We unfortunately do have more cognitive statements although I do think some of them fit.
{Emily} That’s fine so just tell me.

{Tachers} So for example, understanding the importance of recycling. Um, we also hope that by understanding it they act on it. They understand the relationship to it.

{Emily} So not only do you want them to understand the importance of recycling but you want them to recycle.

{Tachers} Yeah, we want them to act on that, make informed decisions that therefore kind of also fits under ways to save the earth, resources and create a better environment.

It could be understand the importance of the recycling/composting

A earth conscious consumer

Our second one Emily was to understand ways to save the earth’s resources and create a better environment.

Okay, here’s what I want you to do, I have a project for you. I want you to write the yogurt companies and I want you to find out why they went from recyclable containers to non-recyclable containers.

But see those are ways to save the environment. When we get to our save the earth, be better stewards of the earth we have an idea, Rose, our stewards of the earth fits into what you just said. But I don’t think we, can we share that too? Or is that a different topic?

{Emily} You can share that.

{Tachers} Okay, it started with, we went through an assessment that Emily has that every fifth grader went through to see if we see any changes and as we went through it and realized that many of the questions were the kind that even if you don’t take an action you’re going to say, I will conserve water because I know its good, yes no. Well everyone would say yes. So we decided that we would at the beginning of the year write a letter to the parents saying and explain that at the open house that every fifth and sixth grade student has to do a project that in some way betters our environment. And we will give suggestions in terms of areas, like saving water or electricity or recycling and they have to come up with what their goal is and what their plan of action is and have their parents sign on. So something like your why are non-recyclable containers, they could be writing letters, putting posters up, whatever they decide to do to inform the public that a certain type of yogurt is still using recyclable containers and someone else isn’t. That it is a truly designed project with our guidelines in mind and that the parents have to support and it will promote stewardship.

And it’s important to say, that we’re not going to be saying you need to do this or you need to
A child couldn’t say we’re going to conserve water and then at the end say yes I did. A child would have to say a specific thing. But I think if they do that they’ll start talking to their siblings and families about, do you know how much water? And then we could teachers could get into have you ever measured how much water you use if you let it run while you’re brushing your teeth vs. if you don’t and get into some of the collecting...

{Emily} Is this a home project? Or a school project or both?

{Teachers} Both. It’s a home project with us at school--

{Emily} Well could they say they wanted to figure out how much waste the school produces?

{Teachers} They could but it’s an individual project.

{Emily} Right, it’s a self-directed and individual project.

{Teachers} Well what this is, instead of a test this is going to be a portfolio kind of. Well it’s an assessment based on a project P171.

They’ve collected some data and they would have had, all of these other components would have to be in it and those we’d teach but their project would be self-directed.

And what you guys will have accomplished is one of the goals for Jackson’s Environmental Discovery Center is a community linkage—between the school, community and parents and they would have to be- P164

It could be that they want to reduce the waste in their neighborhood and they could collect tin cans and take it to the recycling center. Almost anything.

So there is, with that project there’s meeting

{Emily} Do you have any other ones for me? For me to write down?

{Teachers} No, because we were so thrilled that we had two.

{Emily} Yes, fabulous. Fabulous.

That’s just for one of the units, we only go to one

{Emily} Right, and that’s fine. Now let me put this out there—now while you’re giving me specific things that you developed for the forestry unit, for the composting unit; we’re going to come back and I’m going to ask you individually and some of you have already done this—close your eyes, close the curriculum guides, you have a fourth grader, what does it mean—are there any additions, anything you would add for that student? Not
directly related to a specific unit, but just on a that whole goal of what that student looks like—where are you reaching? Okay? Thank you 5, 6, 3, 4?

{Teachers} Um, well do you want to go? Okay at the value level we had, do you want values and then stewardship, what do you want?

{Emily} What do you want to give me?

{Teachers} Okay with the values are the-

What are some reasons forests are important to people? Why are forests important to animals?

So they have to understand the importance of forests

{Emily} Okay.

{Teachers} Okay, I can be a forest steward.

{Emily} You want them to understand that they can be a forest steward?

{Teachers} No, no. Define the responsibilities of a forest steward. Name the choices a steward can make for a forest use. And identify how these choices affect the use of the forest. And their going to be doing, if we want to use the word, they’re going to be making informed decisions P167 and taking actions to help the future of our forests.

Knowing that some of these, like she said, understand the importance of forests; it could be habitats or ecosystems, you could take it beyond if you’re looking at big thing or define responsibilities of-

Right, and what we have is we’ve found some things that can help the kids actually understand for a tree is more than just...and then one other thing, we are going to do we talked about a fundraiser where they will look at for a planting, what is the correct tree to plant that would fit into this ecosystem. What we’re going to fundraise for that—find that tree.

{Emily} All right, 1, 2?

{Teachers} We have—we did our unit, so we had maintain the quality of our habitat by not littering, respecting the animals and plants that grow there, nurturing—by weeding, planting, etc. And then for our pond one, we had investigate ways to preserve, protect and respect pond animals. And then we changing our scientific processes, we called it something different we called it recycling as a science based process. Because we’re going to totally link our recycling.

{Emily} Okay so they’re using the scientific process to investigate?
I'm not done. The students will show wise recycling choices, we talked about all of the things in our classrooms that can be recycled. Then we put, understand how recycling affects their lives and the lives around them P168.

We’re so excited!

That’s all we have

Okay. All right, now do you, when you look at this—oh I’m sorry, Kindergarten, Kindergarten—forgive me.

Well I don’t know.

I’m sorry!

I didn’t forget—I knew you still had to go

Um, okay I have broad ones and then ones specific to the unit—do you want just the broad ones?

Yes.

Okay, develop a love of nature. Become aware of the value of the environment and the importance of taking care of it P176. Become aware of the different components of our environment. And um, understand that the components of the environment are interconnected. And then, identify their values in other words—what is important to them? Now this is really hard for Kindergarteners, I would say this would be a very beginning level of thinking about this; things that are important to them.

What about some of your social ones?

Oh, um okay and these are, develop respect for others and their ideas. Learn to cooperate and work together. Express their ideas. Become responsible.

Responsible, how so?

Responsible for their own behavior. They’ll hear me use the word responsible a lot but certainly it can apply to a great sense for the environment.

Right for their own behavior and environment

Become reliable in the sense that they need to be responsible. I think that’s.
Emily, when I see what we’re writing up there and I think about, I wonder if we should really restate our original that we want to make them stewards of the earth and say that we want to provide them with the tools and the understanding. P182

When I see that what we put up there, you know 5th and 6th grade and all of you said a lot of kinds of things and they can tell you everything that’s bad about it. We can teach them why they should protect the environment, we can teach them about conserving energy, conserving resources all of these things, but I don’t know if we can make people. Maybe we should rephrase that to say that we will provide student with the tools, the knowledge, but that we ultimately, it is their choice as to whether they are stewards of the earth. They can recognize that yes, I waste a lot of water but I may still choose to waste a lot of water, a hot shower. I think we just need to be aware that we can’t actually create kids with certain values, that we can teach them what certain values are but

And their families, when they leave here--

And even a lot of us who speak on certain environmental values our whole life have components of our life that were really really good and other components that aren’t so good. I was going to use that, but you know—how many of us do drive SUVs? And even if it’s not an SUV, how many of us do drive a car that’s not good on mileage? You know and we do that because it fits a different part of our lifestyle and maybe I, you know we love nature and we love going out into it with our SUV, with our canoes and our bikes but it’s for a lack of love of nature.

But the thing is you made an informed decision P167. You know the advantages and disadvantages of an SUV and you made that decision. So you thought it through—you’ve gone through the process and you understand it.

And I think that’s all we can do for kids, and realize every time they make a choice there is an alternative.

And you drive all winter and you drive hundreds and hundreds of miles on those winter roads you need that SUV!

Right, right.

…

{Emily} Okay, now I do have a question. We have spent a lot of time talking about values and making sure that we’re teaching kids that, and yes we may be using the environment as a context for that but we’re not turning the kids into a bunch of tree huggers. So then my question is, when we look at these—are there any of these that are more value ridden? In the context of the environment?

…
Thursday

{Emily} All right, well I have a couple of things for you to start with. First of all, I typed up the yellow sheet and so if you want take a look at it and make sure that I did get correctly what you had written down and then I had been meaning to give this to you yesterday and I forgot but the MN Department of Education developed an environmental literacy scope and sequence which was sort of what we were trying to accomplish and I copied off part of it because it had certain benchmarks of things they wanted kids to learn at each grade level and they have what they call their literacy benchmarks or key concepts and then some examples. I thought at least they could be something that you could look at that might be a nice resource for you. And my understanding for this morning was that we wanted to start by looking at learner outcomes and then get back together. I got the sense yesterday that you wanted some pretty significant amount of time so I don’t know if we want to say maybe 10:00 that we get back together again? It’d give you about an hour and forty five minutes. I’m going to try while you’re doing that and I’m circulating, I’m also going to try and type up some of what you’ve been doing into a chart form and I’ll leave a spot for learner outcomes so you can just cut and paste right into that. Okay? I think that’s all we need, have fun and have a good time.

(Broke into groups for rest of day—no taped transcription)

Friday

{Emily} What I have written down that we’re going to do today is we’re going to talk about literature that people want to use and then we’re also going to talk more about some of these activity guides that we have and talk about which particular grade level is going to use certain activities. So that we don’t have a lot of overlap and there may be some that do overlap but you won’t put a lot effort into an activity in fourth grade and then find out someone else already did it. One thing that I thought would be easier as we’re going through is if I can borrow one of your computers and what I will do is actually start putting these into the actual document that we’ve all been working on. But what that means is that I kind of need to know why you’d like to do certain activities. That would be great, I’ll try to record it all but then there’s less data entry in the end.

So I’m going to actually turn this over to Denise.

{Teachers} Okay I know Kindergarten is all ready so I’m just listing up the activities Char thought might be useful to her classroom....

*Only wrote down the comments between the teachers, not just what they shared—content is already recorded:

{Emily} But see that’s what we want to do, we want to put them all up and then see where’s there’s overlap. And then we can discuss that.
If you look at that for PLT, there’s not much overlap.

41 is an overlap, between K and 3rd grade. That’s okay I don’t think that’s a big deal to overlap between K and 3rd grade. I think it’s bad if its one year after the next.

Kindergarten will be the basic part, 3rd grade can go from there

Do you want us to give it up?

No, no no you can keep it there, we’ll just build upon what you teach. We’ll just step it up.

How are you thinking of using it, let’s start with that. Because it’s #41.

It does actually say grades 4-8. With the variation it says K-2. So if they did the variation.

Kindergarten is doing the variation part of it

... So do you all feel comfortable that there are activities that are listed in multiple communities?

And even when I looked up and say there was one, I thought oh they’re doing it, that’s okay

... *Divvied up activities—recorded on major grid to look for overlap. Most of tape is just sharing what they had.*

Lots of comments for collaboration—“I think it’s neat to see overlap P183”, “opportunity for building”—“some kids will remember, others will not”.

Now we just went through the PLT, WILD, Aquatic WILD and WET and listed out numbers, does everyone feel comfortable with this process and did you make notes of ones that might cross over the other grade levels so you can talk to them in the future?

Are we going to get a copy of this?

Hold on, hold on but this has been a constant comment that I’ve heard this year, this document you’re doing this and I used to do this, that’s why we’ve gone through-
You're right, you're right

The whole process of doing this and there is some overlap but we want to make sure that everyone’s okay with that. And that you know where some overlap is, the other question is what do we do with other activities that you come up with after this?

Well I suggested that Emily’s typed it, I’ll finish typing it. You’ll have a grid sheet that is in numerical order. I’ll probably go in and put in titles, so it’s easier to remember and then if you come across something in the next year that you want to add to it, I’d say you should add it to the document and how do you want to handle it, should you have a standing line in a staff meeting that if you add a PLT, WILD, WET activity that you bring it up at that time?

From a 5th-6th point of view, I think we’re going to be aware that it might have been done before and that’s just the reality of it. I guess where we’d be concerned is that if it’s listed as 5th and above and say 3, 4 decides to do it just at a staff meeting.

Jill and I are going to use all of the 8th-12 grade ones in 1st grade next year.

So you feel if you come across new ones don’t worry about it. You’ve gone through the process and you have the feeling that people will be doing things that are appropriate and that-

I think it’s just nice to be aware of

The other thing we have talked about too is possibly at the end of the year, just to revisit and change and discuss how it’s evolved. So when you make the grid you can allow spaces for changes and revisions.

I think that’s a good point because as you do the activities, you may find that they don’t work for you and so you might want to recommend that you go either up or down with it. Come back and talk about this. For those of you that attending PLT, WET and WILD workshops, we said we were going to have a two hour follow up workshop to discuss. Is what we did here today, does that fulfill that requirement, do you feel satisfied?

I feel complete!

What I think what would be nice is that if you’re doing one of these activities to have a place to share next year, in your unit meetings especially because when you do these activities with your kids it will be done differently and you’ll have different things you’ll want to discuss. And as a quasi-facilitator for these activities, I’d encourage you to talk about these activities and discuss them at your unit meetings.

Well even the discussion we had earlier in the week, with PLT is that when I saw activities that I thought kids were going to enjoy and it said Forestry, I knew 3, 4 was doing that so I avoided those and I assume they did the same with prairie and wetland.
You just know oh that’s their focus and even though it’d be a great activity and our kids would enjoy it, it’s not our area.

Well what I will do is email Larry to wrap up this discussion, should we take a break?

{Emily} Yes and when we come back, we’re going to do something very similar, but think about the literature that you want to do with environmental themes. I have a good webpage that I can have you open up that can give you connections.

(Break)—lots of random question about the location of items and whether or not they came in. Need an inventory of what you have and system of knowing where and who has things.

END OF TAPE 4.

*Divvied up literature
Appendix J- Themes for JEDC Study

THEME 1: Development of the Curriculum
1. Year 1:
   • Curriculum—Conflict over ownership of subjects, who’s teaching what?
   • Curriculum—Still teach basics and environment
   • Curriculum—How will we integrate in all grade levels?
   • Curriculum—Originating from top down
   • Curriculum—We should be doing something different
2. Year 2:
   • Curriculum—Develop a plan/timing
   • Curriculum—Importance of infusion
   • Curriculum—Need to set specific competencies

THEME 2: Importance of Support and Involvement
Supporting Theme 1: Leadership:
   • Role of Principal
   • Role of University
   • Role of Researcher

Supporting Theme 2: Encouragement
   • Role of Principal
   • Role of partnerships with community
   • Parent involvement (Positive)
   • Role of Parents/Parent comments
   • Impact on students/reactions by them
   • Student involvement

THEME 3: Development of Teacher Empowerment and Ownership
   • Enthusiasm towards becoming a charter
   • Becoming more comfortable with idea, sense of ownership
   • Assessment concerns—DPI
   • Roles of staff—steering committee vs. non
   • Outcomes of Collaboration
   • Teacher Empowerment & Ownership

THEME 4: Development of the Teacher as a Professional
   • Affect role as teacher
   • Affect job responsibilities
   • Teacher workload
   • Role as educator
   • Teacher Practices in Environmental Education
   • What is Environmental Education?
   • Teacher needs
Appendix J- Themes for JEDC Study Cont.

THEME 5: Perceptual Changes-Barriers and Concerns

1. Year 1:
   - Why become a charter school?
   - Implementation concerns
   - Hesitant towards charter and EE school
   - Resistant to idea
   - Fears: Overwhelmed—too much

2. Year 2:
   - Issues to work on
   - Parent involvement (Negative)