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Abstract approved: _____

Joanne B. Engel

The purpose of this qualitative study was to determine how high school students managed their learning while working within the guidelines of a student-centered approach to teaching and learning. Data collected included interviews, questionnaires, participant observations, and Kolbe Conative Index scores supplied by the school. Seven teachers and forty students were interviewed. Student interviews were based on Zimmerman's (1995) self-regulation questionnaire. Teachers were interviewed using the Survey on Teaching Roles (Woolfolk, 1995).

Analysis of the questionnaire on self-regulation was clustered into four categories representing Zimmerman's (1995) learning strategies. The open-ended questions dealt with strengths and weaknesses of the program and were analyzed for recurring themes. Patterns drawn from these categorized data sets were then triangulated with the Kolbe Conative Index for confirmation.

It was concluded that the more productive students used four specific learning strategies: (1) organizing and transforming information, (2) goal setting and planning, (3) seeking help from peers, and (4) seeking help from adults. Less productive students were weak in two or more of these learning strategies along with one of two action modes as identified on the Kolbe.

Students weak in Fact Finding or Follow Thru as identified by the Kolbe and that used all four learning strategies covered themselves with having the skills to learn. These same students talked about a fatigue factor involved in a student-centered approach. All students shared the importance of knowing themselves as learners and how that was a process learned over time. They also talked about the importance of the teacher-student relationship. Graduates of this program shared the perception that a student-centered curriculum provided more opportunity to develop the skills necessary for self-regulation than a traditional high school program.

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On Wings of Eagles: A Look at Self-Regulation of How High School Students
Manage Their Learning with a Student-Centered Curriculum

by

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Julia O. L. Harper, Author

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This thesis is dedicated to my family who have given me the opportunity to learn and do many things: my father who challenged me as a female to pursue my dreams, my mother who modeled the spirit of a life-long learner and who always believed in the abilities of her children. I want to recognize my grandmother, Julia, who believed in personal development regardless of gender.

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On Wings of Eagles: A Look at Self-Regulation of How High School Students Manage Their Learning with a Student-Centered Curriculum

THE PROBLEM

Introduction

This research looked at how high school students self-regulated their learning within a student-centered curriculum model and the impact this had on the roles of both students and teachers. Today, focus for reform emphasizes empowerment of both teachers and learners (David, 1995; Spilman, 1995). This is achieved through site-based management, integrated learning experiences, and education that is set in the context of real-world problems (Cross & Reitzug, 1995; David, 1995; Gleason, Donohue, & Leader, 1995; Lindle, 1995; Parnell, 1995). As a result, several questions have persisted in this research:

1. What does it mean to empower teachers and students?
2. What does it take for a student to have that "ah-ha" experience and take charge of his/her own learning?
3. How do students learn to assess their educational journey and articulate that journey?
4. What do teachers do to facilitate students' growth towards continuous improvement?

The Latin root to *educate*, literally means "to draw out of." Self-regulation is the process through which one becomes able to draw oneself out. It is a valuable lifelong skill.

Definition of Terms

The following definitions clarify terms which are used in the study:

Attribution Theories: Descriptions of how individuals' explanations, justifications, and excuses influence their motivation and behavior.

Conation: The area of one's active mentality that has to do with desire volition, and striving.

Conflict: One of three types of conative stress, caused by not understanding the vast differences in the way people get things done.

Constructivist Approach: A view that emphasizes the active role of the learner in building understanding and making sense of information.

Depletion: One of four obstacles in organizational effectiveness where people working in areas they are resistant in yet it is the very mode necessary for the goal to be reached.

Emotional Hijacking: Involves two dynamics; triggering of the amygdala and failure to activate the neocortical processes that keep emotional responses in balance.

Emotional Intelligence: As identified by Salovey & Mayer (1990) has five domains; self-awareness, managing emotions, motivating oneself, empathy, and handling relationships.

Extrinsic Motivation: Motivation created by external factors such as rewards and punishments.

Interia: One of four obstacles in organizational effectiveness where there is uniformity of talent—lack of conative diversity—conative cloning exist.

Intrinsic Motivation: Motivation associated with activities that are their own reward.

Kolbe Conative Index [KCI]: Our knack for getting things done. It shows how a person will act, react, and interact with the world around them.

Learned Helplessness: The expectation, based on previous experiences with a lack of control, that all one's efforts will lead to failure.

Scaffolding: Support for learning and problem solving. The supports can be clues, reminders, encouragement, and anything else that allows the student to become an independent learner.

Schema: Our mental systems or categories of perception and experience.

Self-Regulated Learners: Students whose academic learning abilities and self-discipline make learning easier so motivation is maintained.

Strain: One of three types of conative stress caused by trying to "improve" in the Action Modes in which one is naturally resistant.

Student-Centered Teaching and Learning: An approach to teaching that starts with the learner; considering resource availability,

opportunities, and the students ability to take advantage of resources and opportunities.

Tension: One of three types of conative stress caused by not understanding one's resistance, so the "I-can-do-it" reinforces the tension of false expectations from others.

Volition: Willpower; self discipline.

REVIEW OF THE LITERATURE

The literature behind this research involves two major themes: self-regulation and an understanding of student-centered learning environments. Self-regulation refers to the process whereby students activate and sustain cognition, behaviors, and affects that are systematically oriented towards goal attainment (Zimmerman, 1989,1990). It is believed that skill and will are keys to learning. Research has shown that self-regulated learners have a combination of academic learning skills and self-control that makes learning easier, so they are more motivated to learn; in other words they have the skill and the will to learn (McCombs & Marazano, 1990; Weinstein & McCombs, in press). Three factors that influence skill and will are knowledge, motivation, and volition (Woolfolk, 1995).

Learners need knowledge about themselves, the subject, and the task. They also need to be aware of strategies for learning; and the contexts in which they are to apply their learning. Research on learning styles of Mexican-American and Anglo-American elementary children revealed those who understood and applied their style preference were more empowered in the instructional process (Dunn, Griggs, & Price, 1993). They knew what was easy or hard for them. Furthermore, they had better ability to cope when things got difficult and could use their strengths to their advantage.

The will to learn involves motivation, and volition. But once an individual engages in action (motivation), volitional (the will) processes take over and determine whether or not the intention is fulfilled (Corno, 1989,

1993; Zimmerman, 1989b). The will determines what we will or will not do and gets at what it means to be human.

When talking about motivation one's perception of one's skill to do a task may be a more critical influence on behavior than task incentives or actual personal skill (Garner & Alexander, 1989). Bandura (1977) identified students' unwillingness to begin or persist at problem-solving behaviors because of the perception of low self-efficacy. When people come to believe that the events and outcomes in their lives are mostly uncontrollable, they develop learned helplessness and motivation diminishes (Seligman, 1975). Weiner's model of attribution theory can help us begin to understand the process in which this develops.

According to Weiner (1979), most of the causes to which students attribute their success or failure can be characterized in three dimensions: *locus* (location of cause internal or external to the person), *stability* (whether the cause stays the same or changes), and *responsibility* (whether the person can control the cause). The internal/external locus seems to be closely related to feelings of self-esteem (Weiner, 1980). If success or failure is attributed to internal factors, success will lead to pride and increased motivation, whereas failure will diminish self-esteem. Stability is closely related to expectations about the future and whether the factors are stable or unstable. Weiner (1992) found that if students attribute the outcome to unstable factors such as mood or luck, they will hope for changes in the future when confronted with similar tasks. But failing at an uncontrollable task may lead to anger toward a

person or an institution in control, while succeeding leads to feeling lucky or grateful (Weiner, 1992).

Responsibility is the dimension that deals with the affective responses which are linked to our emotions. If people fail at something they feel is controllable, they may feel shame or guilt; if they succeed, they feel proud. This becomes an important issue when educators talk about empowering the learner. Through the work of Seligman (1975) and others, educators can see that learned helplessness affects knowledge, motivation, and volition. To be a self-regulated learner one must exercise control over their thinking, feelings, and behavior in order to acquire knowledge and skills (Zimmerman, 1989).

Self-regulated learners are motivated to learn because they know the purpose behind their learning. They also know what to do when they are tempted to stop working. These learners develop goals and have an interest in mastering tasks in order to meet those goals. They are developing theories-in-action. The work of Karmiloff-Smith and Inhelder (1974) supported the importance of developing a theory for problem solving in order to move ahead. Karmiloff-Smith and Inhelder focused on the interplay between the child's action sequences and implicit theories which the observer inferred as a result of observation. While the child is success-oriented and concentrating on balancing, positive action-responses are all-important. Then gradually negative action-response shifts the child's attention to the means, i.e. "how to balance." As children begin to construct a theory for

interpreting the regularity of positive action-responses, negative action-responses move to become a positive theory-response. Negative responses remain action-responses until a child's theory is generalized and consolidated. Negative responses are a necessary condition for progress but only as the theory in action is developing. The results clearly showed that "if you want to get ahead, then get a theory" (Karmiloff-Smith & Inhelder, 1974). As the learner continued to grow and mature the actions became more specific and goal directed.

Novice learners analyze a given problem in terms of superficial features (Chi, Glaser, & Rees, 1982) and are inclined to act immediately and unsystematically (Elshout, 1987; Jansweijer, Elshout, & Weilinga, 1990). The lack of metacognitive control results in poor problem-solving representation resulting in weak strategies such as means-ends analysis and working backwards. The reverse is true as well: strong metacognitive knowledge can make up for low aptitude in processing for problem solving (Schoenfeld & Hermann, 1982; Swanson, 1990).

Other researchers have demonstrated that expert problem solvers have more knowledge at their disposal and are better organized and more procedural (Chi, Glaser, & Rees, 1982). Students who achieve a high level of academic mastery have greater automaticity with their cognitive functions (Schneider & Shiffrin, 1977). Students who achieve at a high-level task know what works and what does not and they make what works part of who they are. They know how to protect themselves from distraction when they need

to study. They know how to cope when they feel anxious, drowsy, or lazy (Corno, 1992). They also know what is their best environment in which to work. As a result, the learner has increased motivation.

Understanding Self-regulation Using the Kolbe Conative Index

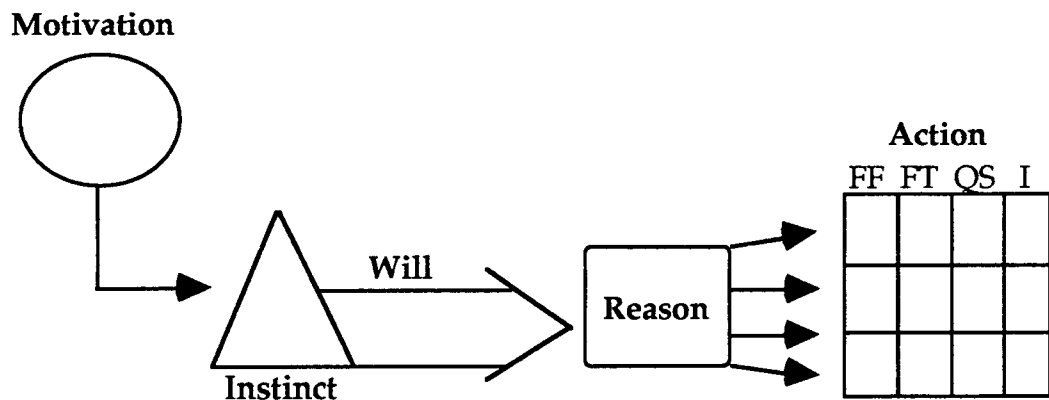
Self-regulated learners' knowledge and motivation alone will not keep them learning unless there is the will to learn. Although motivation denotes commitment, volition denotes follow-through (Corno, 1992). The Kolbe Conative Index [KCI] is a model that looks at what learners will and will not do based on action modes. The KCI is a model designed to help learners understand what they can accomplish in a manner that fits within their preferred mode of operation. Kolbe (1990) identified this as the basic instinct or action mode. She (1993) illustrated the creative process using a model that shows the differing aspects of motivation, instinct, will, and reasoning (Figure 1).

Discovering creative instincts and action modes was a break-through which helped Kolbe understand why two secretaries who both typed 80 words a minute, took shorthand at 120, and made good grades in school, could contribute so unequally on the job. The KCI measures basic instincts for why we do things the way we do (Kolbe, 1990). It provides a tool which can be used to predict and quantify how one will act in a given situation. Conation

is the area of one's active mentality that has to do with desire, volition, and striving. The related conatus is the resulting effort of striving.

The Kolbe Index has four action modes: Fact Finder, Follow Thru, Quick Start and Implementor. The instinct to "probe" is to do Fact Finder type activities; the instinct to "pattern" is a force or use of Follow Thru behavior; the instinct to "innovate" is Quick Start energy; and finally, the instinct to "demonstrate" involves the use of Implementor actions.

Figure 1. Creative Processing Using the Kolbe Conative Index.



*Note: FF= Fact Finder; FT= Follow Thru; QS= Quick Start; I= Implementor

The KCI allows one to evaluate how the concept of time management is used based on the four action modes. The Fact Finder mode provides a way to evaluate the ability of a learner to put events into a historical perspective. The Fact Finder person evaluates and allocates both time and energy towards

solving problems in the context of prior experience, and records it for present and future actions so there is a sense of timing and sequence.

The Follow Thru mode eventually becomes an internal clock which is used to sequence events and provide continuity. It becomes the way to pace oneself: like a personal metronome, Follow Thru sets the rhythm for effort and represents the ability to integrate time and experience from the past and present in order to be successful in the future.

The Quick Start mode allows a learner to predict strategies for dealing with future events. It helps learners to anticipate issues and to project their imagination into the future. This provides insight that may help deal with change.

The Implementor keeps the learner grounded in the present. This is the desire to make a learning moment last and to create problem solving schema which will endure through time. According to Kolbe (1990) all learners can operate in every mode. The variables are intensity, reliability, and effectiveness without stress.

The Kolbe distinguishes three levels of performance for each Action Mode. People either insist on doing things in a certain way, resist those same activities, or are willing to accommodate to get things done. Resistance does not mean an inability to act within a mode; anyone can follow procedures. It means a learner will not act that way of their own volition.

A resistant Fact Finder will try to use her new computer with as little help from the manual as possible. This learner will not figure out all the

bells and whistles until they are needed. A resistant Follow Thru will not write the letter of recommendation until the last minute. Resistant Quick Starts will not try a new teaching technique until they have seen it work someplace else. Resistant Implementors will not want to try the new plan until they absolutely have to and then, when it's time, they probably will not have what they need to do it. Resistance means that, while one may be able to get by in a certain mode, they will be dragging their feet or overcompensating. If one has to operate there for very long the stress of going against the grain will sooner or later cause burn out.

Insistent means that given free rein, this is how the learner will proceed, "as naturally and as intensely as a cat chasing a mouse" (Kolbe, 1990 p. 25). This is where most learners want to spend most of their time because this is where they can soar. Accommodation means going with the flow. One can function comfortably in all four modes, using them as needed, and while one probably will not be a leader or a star in any one area, one will not feel stress, either.

The Kolbe Conative model identifies how people can work most effectively within their dimensions and what kinds of things can predict ineffective behavior. Some learning groups are energized and others have the reverse effect. This phenomena can be partially understood through use of the KCI model.

Energized groups experience synergism when the total effect is greater than the sum of the parts acting independently. Kolbe believes groups are

balanced by what each person brings to the team. The opposite is true when one experiences what Kolbe (1990) identifies as meltdown. Meltdown happens when the mental energies of each person suffer as a result of unrealistic, external pressure to act otherwise. Each member is trying too hard and may even be working against his or her grain. When this happens learners experience conative stress.

Kolbe (1990) believes this stress comes in three forms: strain, conflict, or tension. Strain is self-inflicted. It is caused by trying to improve in an Action Mode that one naturally resists. Conflict is a result of having to work with others who operate very differently and try to impose their ways. This can bring about a power struggle which can bottle neck operations. Conflict is unavoidable but it doesn't mean people have to reduce their differences down to a power struggle. Tension is a result of trying to meet someone else's expectation, the I-can-do-whatever-it-takes syndrome, even though the job may be working against your natural grain. Recognizing each other's instincts can help learners know how to work together and when to yield with one another.

To motivate action requires targeting effort that includes self-regulation, intellectual understanding, and emotional caring. When regulating self, a persistent level of intensity is needed to maintain action. Action calls on powers that are instinctive. Self regulation is knowing when to expend and preserve those powers purposefully. Erich Fromm wrote in *Man For Himself*,

. . . there is no meaning to life except the meaning man gives his life by unfolding his powers by living productively; and only constant vigilance, activity and effort can fully keep him from failure in one task that matters—the full development of his powers. . . . He can make use of his powers only if he knows what they are, how to use them and what to use them for. (Fromm, 1947, p. 91)

Knowing one's mode of operation as identified by the KCI does not guarantee one will get to use it. Cognitive issues such as lack of skills or training can limit opportunities. Affective issues, such as emotional intelligence, values, and attitudes, can also interfere. But it can help educators understand why some students are not as productive as teachers think they could be.

Student-Centered Teaching

Student-centered teaching is not new to education. It has been called many different things such as project-based learning or humanistic approaches to teaching. As early as 1628, Comenius established a school in Lissa, Poland that was designed to teach students by doing and teaching others. Comenius felt schools should include freedom, joy, and pleasure (Whitmore, 1991). He thought education should be pragmatically rooted in the students' real lives: nothing should be learned solely for its value at school, but for its use in life (Whitmore, 1991).

The root word of “pragmatism” is a Greek word meaning “work.” It is a philosophy that encourages the learner to seek out processes and do the

things that work best for achieving the most desirable end. Knowing and doing is a human experience and is a central part of pragmatic philosophy.

Pragmatism gained momentum in the United States with Charles Sanders Peirce (1893-1914), William James (1842-1910), and John Dewey (1859-1952). William James popularized the psychology of science; Dewey "systematized" it (Farnham-Diggory, 1992; Ozman & Craver, 1990).

Pragmatic education gained momentum in the 1920s because many liberal thinkers felt that American education did not reflect the ideas of justice and freedom found in democratic theory. Pragmatists wanted some focus on process as well as outcome, they believed the ends should not be divorced from the means. For example, to say that American schools should produce democratic citizens and then establish schools in such a way that students have almost no choice, judgment, or decision-making opportunity is, in actuality unfair (Ozman and Craver, 1990).

Ralph Tyler's eight year study in the 30's was a comparison of traditional and progressive schools. The progressive schools put pragmatic principles into practice. This study involved 30 high schools and 300 colleges. High school students in progressive schools did as well or better than those attending traditional institutions (Ozman & Craver, 1990). The study never received the attention it deserved since it came out when the nation was dealing with World War II.

Whether it is progressive education or pragmatism, a student-centered approach to teaching and learning starts with the learner. It considers

resource availability, opportunities, and the ability of the students to take advantage of these resources and opportunities. Nuthall and Alton-Lee (1990) break these down even further:

1. The student must have resources to learn. These might include such personal, social, and technical resources as sufficient prior knowledge, support from home, materials and equipment, and relevant experiences.
2. The student must have opportunities to learn. This means sufficient time spent with demonstrations, discussions, and projects; opportunities to clarify concepts; and challenges that will displace misconceptions.
3. The student must take advantage of these resources and opportunities to learn. The student must pay attention, talk with teachers and other students, and express understanding of key concepts orally or in writing.
(p. 555)

A student-centered approach to learning changes the role of the teacher considerably. The teacher and student together make decisions about content, activities, and approaches. Students have the opportunity to pursue meaningful problems and projects. In a more teacher-centered approach the teacher controls the "what" and "how" of learning. This is done through teacher-directed goals and instructional, behavioral, and cognitive objectives. The teacher articulates what it is the student will learn and do.

As Dewey (1965) so aptly pointed out, a "philosophy of education" is not the application of ready-made ideas to every problem but rather the formation of mental and moral attitudes to use in attacking contemporary

problems. "When changes occur in social life, we must reconstruct our education to meet these challenges" (Dewey, 1965 p. 140). This calls for change from students and teachers. Each must know what they can and can't do. Both must learn to develop different strategies when they run into problems. The process of developing a theory gives the learner purpose and meaning. Learners that have not completed the process of theory development may have short circuited the learning cycle. This is a type of learned helplessness. Self regulation begins with the awareness of our strategies for learning.

The most important issue in downshifting or emotional hijacking is the sense of helplessness and lack of self understanding which consumes the learner. The way teachers begin to turn this around is threefold. First, by understanding the importance of contextually based teaching and learning experiences that engage the learner. The second way to prevent students from downshifting is to provide opportunities for the relationship between the teacher and the student to develop in such a way that allows students to deal with their stress. The third way to prevent downshifting is for teachers and students to pursue excellence in what they do e.g., becoming life-long learners. This can only happen when students and teachers begin to know themselves as learners.

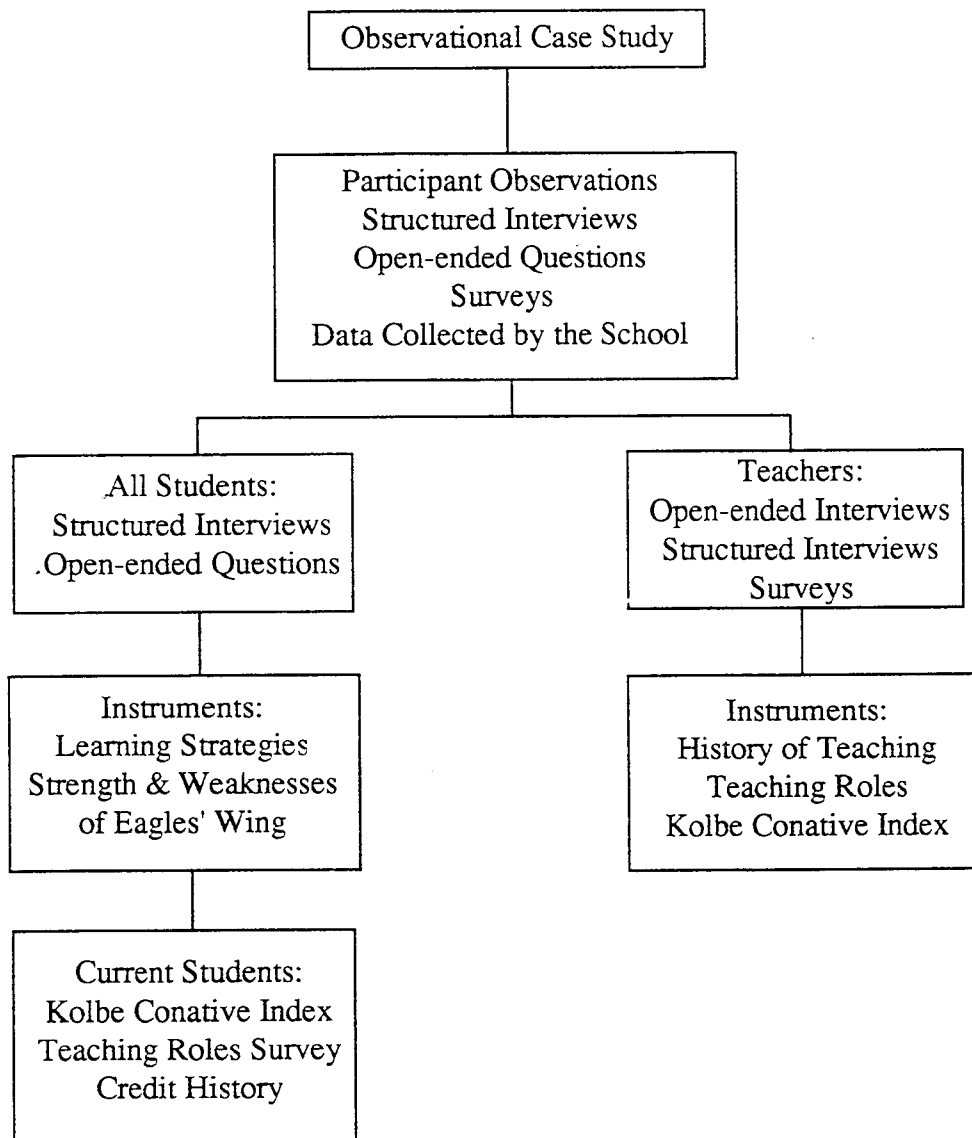
Teaching and learning involves a complex set of skills and to try to come up with specific cause-to-effect relationships is difficult (Gage, 1985b; Van der Sijde, 1989). This dilemma is similar to teachers attempting to

measure the desire for knowledge, appropriate attitudes, and skills in students which will permit them to become life-long learners. These are the concepts in many of the educational reform goals stated around the country. They are difficult to measure.

It is my belief that educators can evaluate some of this information using qualitative research. Recognizing that generalizations become tentative because they are context dependent. How we interpret validity from one setting to the next or from one period of time to another is vastly different when using qualitative research. But, as educators begin to get a picture of a variety of settings and learners, patterns may emerge which will help develop a broader understanding of what it means to "educate."

RESEARCH DESIGN AND METHODOLOGY

The schematic in Figure 2 outlines the process utilized in this study. Using observational case studies identifies the researcher as the major instrument collecting data. The focus is on a particular organization and the interactions that go on within that organization. My focus was Chesapeake Bay High School Eagles' Wing program. The theoretical affiliation is symbolic interaction based on Dewey's work in the Chicago Schools in the early 1900's (Bogdan and Biklen, 1992). Objects, people, situations, and events do not possess their own meaning, rather it is conferred on them. Through the interactions within an organization individuals construct their own meaning and they develop a shared meaning. Symbolic Interaction theory holds the view that the construct of "self" is defined through the interactions with others therefore it is a social construct (Bogdan and Biklen, 1992). It utilizes an inductive approach of particular to general referred to as grounded theory. I used four different methods of coding in handling the data. Pre-assigned coding was used for the learning strategies developed by Zimmerman. Setting and context coding was used for data gathered from school pamphlets, materials developed in the Eagles' Wing, and a student handbook. Definition of situation codes were used to analyze how students and teachers defined the setting of the EW. And finally, I used process coding that looks at change over time to synthesize self-regulation and student teacher relationships.

Figure 2. Research Schematic of Eagles' Wing Study

Initially, I met with a group of students and teachers at Chesapeake Bay High School to discuss areas of interest for studying their program. The Eagles' Wing is an innovative program of choice begun in 1992-3 as part of an effort to move toward restructuring of high schools in Washington. It is project-oriented with assessment based largely on performance standards demonstrating concepts learned and applied. Three questions were presented initially. Does the Eagles' Wing have the impact that it seeks? What are the major factors in its success? When graduates enter college, how do they fare?

In order to answer these questions, the Eagles' Wing faculty asked me to conduct a study on the wing. In conjunction with a committee of EW students and faculty, another series of questions were raised that looked at student satisfaction and how they manage their learning. These questions were developed over the course of several meetings and brainstorming sessions. I then categorized the questions by themes and brought them back to the group for further discussion. Through this refining process, I narrowed the questions down to ones related to self-regulation and the learning environment:

1. What does it mean to empower teachers and students?
2. What does it take for students to have that "ah-ha" experience and take charge of their own learning?
3. How do students learn to assess and articulate their educational journey?
4. What do teachers do to facilitate students' growth towards continuous improvement?

These became the questions driving the research while the initial questions were part of a board report compiled by teachers of the Eagles' Wing and myself.

Demographics of the Eagles' Wing

There were 40 students and 7 teachers who participated in this study: thirty-three students and seven teachers who were currently involved in the Eagles' Wing, and seven graduates (Table 1).

Table 1. Summary of Study Sample
N= 47

Teachers	Students	Graduates
7	33	7
5 Males 2 Females	18 Males 15 Females	3 Males 4 Females

To participate in the study, each student had to be in the Eagles' Wing at least one year. This criteria eliminated the freshman class of 1995/96. A stratified sample of approximately 10 students (5 males and 5 females) from each grade level, sophomores to seniors, was obtained using student identification numbers that revealed year and gender. Letters were sent out to fifteen students who had graduated 1-3 years previously. The graduates were selected on the basis of track-ability and their willingness to participate. The graduates who responded to my request to be a part of this study were

involved in further education in a variety of ways. One student was attending North West Film Center because of an interest in cinematography. Several other students attend Evergreen College a non-traditional liberal arts school. Others attend more traditional colleges and universities such as Mills College in San Francisco, University of Washington, University of Montana, and George Fox College. They ranged from Freshmen to Juniors. There were three females and four males. All of these graduates were part of the original student body of the Eagles' Wing. Three were sophomores, two were juniors and two were seniors when they had started in Eagles' Wing. All seven teachers who were part of the Eagles' Wing agreed to participate.

The Eagles' Wing has been in existence for 4 years and the students in this study ranged from one to four years in the program (Table 2).

Table 2. Years in the EW by Gender
N=40 n=20 Males n=20 Females

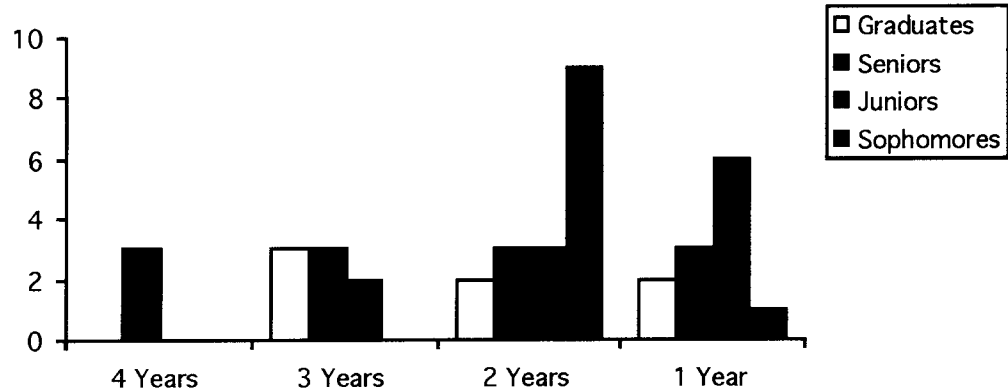
Years	Students	
	Males	Females
1	7	5
2	7	10
3	5	3
4	1	2

These were a heterogeneous group of students ranging from special needs to honors placement. There were three students who were identified

as honor students representing seven percent of my population. The gifted student population of school-age children is about five percent (Clark, 1992). There were six special-needs students on current Individual Educational Plans (IEP) in the study which represented fourteen percent of the population. Of the special needs students, one was female and the other five were males. Nationally, school-age children with learning disabilities represent about eight percent of the population with about twice as many males as females. Ninety percent of the children identified with disabilities are considered "mild disabilities" (U. S. Department of Education, 1990). Therefore, the present study had almost twice the national average of students identified with learning difficulties. The high school administration provided student records, achievement test scores, and Kolbe Conative Index scores for all participants.

The students came into the program in three ways: students heard about the Eagles' Wing through their friends, counselor recommendation, and active recruiting. In the past, recruiting teams would go into the middle schools in the spring and present information about their program. The recruiting team was made up of one teacher and about six students. In 1993 the school board changed policies that affected the recruiting practices. This is reflected in Figure 3. The number of juniors represented in the second year is less than the number of juniors in the first year due to recruiting practices. Students may matriculate in or out of the program at beginning or end of a semester.

Figure 3. Students Shown by Class and Year in Eagles' Wing.
N= 40



Teachers

The Eagles' Wing has seven teachers (Table 3) and all were teaching in the program from its inception and were part of the original planning team. Five of the seven teachers had spent their entire career at Bay. Four of them carried the distinction of *Teacher of the Year*. These same four had also taught for over 20 years at the same school but knew each other only by name because of the traditional structure of departments and self-contained classrooms. The average years of teaching among these teachers was twenty-two years.

Table 3. Teachers from Chesapeake Bay High School and Part of the Eagles' Wing Program. N=7

Teachers	Yrs Teaching	Content Area	Yrs at Bay	Yrs in EW
T-1	18	Special Ed.	10	4
T-2	28	History	28	4
T-3	34	English	34	4
T-4	12	Prof. Tech	11	4
T-5	10	Science	10	4
T-6	27	Family Life Ed	27	4
T-7	27	Mathematics	27	4

Researcher

A qualitative research design uses the researcher as the principle data collection "instrument." My personal background, experiences, and commitment to understanding learning and teaching have impacted and interacted with my research. In order for the reader to understand my perspective about the study and how my relationships with the participants affected the research, a description of my background, experience and theoretical beliefs is presented.

I have always had a fascination for learning but not the same love for school. I was in school during the 60 and early 70s. I was at the tail-end of the

baby boom era with larger class sizes than previous generations. I don't remember being in a class of less than 30 students until I got into high school. Many social issues were coming to the forefront. Campus unrest was reaching epidemic proportions. Education was facing multiple racial issues. Social issues were surfacing of national and international proportion. *Educational Wastelands*, (Bestor, 1953) claimed that "know-nothing educationalists" had created schools with "meager intellectual nourishment or inspiration."

I was part of the "total talent mobilization" that Tannenbaum (1979) wrote about following the launching of the Sputnik by the Russians in 1959. During this time new programs emerged to challenge the intellectually bright. Advanced placement courses such as Biological Science Curriculum Study (BSCS) and the School Mathematics Study Group (MSG) were developed. These courses were not taught by high school teachers, but by faculty from a nearby community college. Another aspect of the talent mobilization was to influence the student population to go on for higher education. In my freshman year of high school the counselor informed of me about career choices, arranged for shadowing experiences and proposed an early graduation program.

It was also during that time that schools were first racially integrated. My high school was the first school in the nation to do so. Bus terminals were built at both schools to accommodate the student transfer. There was

tremendous student unrest which culminated in a major riot in 1973. In response to the forced busing and ensuing riot I told my counselor that, "we will not have true integration in our schools until we have integration in our neighborhoods." I was 17 years old when I made that comment. Now, as I look back I would add that integration has to start in the heart; anything less is a facade.

I began my undergraduate studies in early childhood education at Point Loma College which was a private institution in San Diego. I completed those studies and earned a bachelor of science in Human Development at the University of Hawaii-Manoa; a large, metropolitan university in Honolulu. My philosophy of learning has come about through my beliefs, experiences and studies. I believe learning begins in the womb. It is there the thriving instinct for survival begins. If it is nurtured in the early years that follow birth then a wonder for the world and making meaning continues to grow. I believe life is precious and as a teacher I have the privilege of working with the student to help facilitate the making of meaning.

I consider myself a social constructivist; the social context in which learning occurs is of primary importance in understanding social interaction and negotiation of learning. I believe all learning is self learning and learners must construct or create their own knowledge through their interaction with the world and others. The role of other people becomes increasingly less important based on the learners autonomy and relationship to what they are learning.

One of my first teaching experiences was in a Title I program. I had been trained with an emphasis on gifted education. During my time as a Title One teacher, I engaged in a paradigm shift with respect to how I viewed intelligence. I found that many of the economically disadvantaged students with low test scores showed increase learning when I took into consideration their context and how they processed information.

In this program, I worked extensively with the families. I organized and worked with parents who represented a range of backgrounds. I developed workshops to fit their needs and interests and arranged for parent attendance at state run conventions. Later, sustained gains testing conducted by the Oregon Department of Education revealed that my students, now in high school, scored in the eighty-ninety percentile. These students abilities had truly increased.

I also taught in Kialua-Kona on the Big Island of Hawaii. I believe in developing learning communities among the parents, students and administrators. These experiences taught me the importance of the culture and context a student brings into the classroom and how that affects learning. During my time in Hawaii, I also developed curriculum for pre-schoolers and for elementary through middle school integrating different subject areas.

The bulk of my teaching experience was with culturally diverse populations facing major economic challenges. These learners were often disenfranchised from their schooling experience. The issue of empowering students to take charge of their learning had a certain relevance to me

personally and socially. Because of this, I was and am convinced that all learning must be relevant and personally meaningful.

As a qualitative researcher I am a key instrument in the process. This means who I am drives my views. The question then becomes, how do my experiences bias my views? I cannot separate myself from the content and context that I bring into the learning situation. As Patton (1990) stated,

"the investigator's commitment is to understand the world as it is, to be true to complexities and multiple perspectives as they emerge, and to be balanced in reporting both confirming and disconfirming evidence." (p. 55)

For the purpose of this study, I reminded myself of my bias about the importance of education and the value of teaching and learning. I had to keep this in check in order to understand what was happening from the students' point of view. Qualitative research emphasizes understanding the perspectives of all participants. It challenges what has been called "the hierarchy of credibility" (Becker, 1970c): the idea that opinions and views of those in power are worth more than those who are not.

I was naturally pulled toward this setting because of the radical approach to teaching and learning. The teachers seemed to have a passion to get at the root issues of learning, excellence, and schooling. I have a certain bias toward student-centered education because of my experiences and philosophy. As a constructivist, I believe learning cannot be separated from doing and knowledge is a function of activity, context, and culture. One way I

kept my self in check was by asking myself this question—would this type of learning and teaching work for all students and teachers?

Another area of concern for me was that the bulk of my teaching experience had been in primary to middle school and the basis of this research was high school. How would subject integration in high school be different from what was seen in elementary schools? What are the risks? I fought with myself trying to re-interpret how it could work rather than objectively studying the students and teachers engaged in the process. I am aware that the words of the informants are interpreted through my own bias and experience.

My beliefs support a qualitative research design. These beliefs include the following: a) that reality is socially constructed and ever-changing; b) that multiple realities exist and are constructed through experiences and interactions with others; and c) that humans have a basic desire for making sense out of their lives. My goal was to gain entry into the conceptual world of the teachers and students and find out what it meant to be student-centered in teaching and learning and what role did self-regulation play in these processes. I believed the best way to explore the phenomenon of self-regulation was to investigate how students managed their learning when they were the primary initiators and caretakers.

I gained entry into their world in a number of ways. First by my physical presence; I spent fourteen months with them. I traveled with them as researcher and chaperone. I stayed overnight with a teacher when visiting

the site, went out after school with teachers for coffee, dinner, and joined them for their routine Friday morning breakfast. I participated in class activities, discussions, and made myself available to teachers and students. Finally, I interviewed them and discussed issues that were important to them. The teachers and students made me a part of their world. It was through these experiences that I began to make sense out what the teachers and students had created in the Eagles' Wing.

Procedures

Taped interviews were done with every participant. These interviews started in the Spring of 1995 and were completed January 1996. The student interviews started with three open-ended questions. A fourth question was asked of the graduates:

- How did you find out about the Eagles' Wing?
- What do you like about the Eagles' Wing?
- What are weaknesses of the Eagles' Wing that you see?
- How did the Eagles' Wing prepare you for your next step?

Following open-ended questions, structured interview questions dealing with learning strategies were asked. These questions were developed by Barry Zimmerman (1994). See Appendix A for these questions. These structured interview questions were open-ended scenarios about different

aspects of learning such as: classroom learning, writing assignments, mathematics assignments, test taking, motivation, environmental structuring, and self-evaluation. Students were asked to indicate the strategies they would use to assist learning in such situations. Students were asked to estimate the frequency with which they would use these strategies in similar situations (on a 4-point scale ranging from 1 [seldom] to 4 [most of the time]). Student responses were then coded initially into 15 different learning strategies. Appendix B contains the strategy codes. I then took the four learning strategies identified by Zimmerman (1995) at the AERA meeting as those most important for self-regulation. Student interviews took approximately forty minutes.

As I collected data in the field a reoccurring theme coming from the teachers was the importance of *walking your talk*. Walking your talk seemed similar to three out five of the guiding principles of the program; quality, integrity, and commitment. Therefore, I decided to survey the teachers and students to see if teacher and student perceptions were consistent. Students were asked to assess the teachers using a 7-point Likert scale as to how strong they felt the teachers skills were in the seven roles of expert teachers. The teachers also rated themselves on the seven roles of expert teachers using the same likert scale. See Appendix C for this scale.

The teachers were also interviewed using several open-ended questions:

- What brought you into education?
- How did you become involved with the Eagles' Wing?
- How has teaching in the Eagles' Wing affected you as a professional?

Following the open-ended questions, I discussed the seven roles of expert teachers and talked about their strengths and weaknesses as they perceived themselves. These interviews took from one to two hours each.

To maintain uniformity of instruction and procedures during the interviews, transcriptions, and survey distribution I was present for all data compilation. The high school administration and I, maintained complete confidentiality of each and every participant by use of identification codes and name changes where appropriate. Informed consent forms were sent to all subjects, as well as parents of students. This project was approved by the University Human Subjects Committee (See Appendix D).

Analysis Procedures for the Student Interviews

Responses to the interview sessions were analyzed using a manifest coding system. According to Weisberg & Bowen (1977) "manifest coding" refers to the substance of a respondent's answer rather than the style of the answer (known as "latent coding"). These data were analyzed for relationship patterns that emerged out of the social structure of the school and perspectives held by the students using four different coding systems as

identified earlier: pre-assigned categories, setting and context codes, definition of situation codes, and process coding. The pre-assigned coding system for Zimmerman's learning strategies questions are listed in Figure 4. The list of learning scenarios are compiled in Appendix A and definitions for learning strategies in Appendix B. This research focused on learning strategies identified by Zimmerman (1995) as the most important for self-regulation presented in his paper at AERA. They are listed in Figure 5.

Figure 4. Learning Strategies

1. Self-Evaluation	9. Seeking Peers Assistance
2. Organizing and Transforming	10. Seeking Teacher Assistance
3. Goal Setting and Planning	11. Seeking Adult Assistance
4. Seeking Information	12. Reviewing Tests
5. Keeping Records and Monitoring	13. Reviewing Notes
6. Environmental Structuring	14. Reviewing Texts
7. Self-consequences	15. Other- Technology
8. Rehearsing and Memorizing	16. Motoric- hands on learning

Figure 5. Learning Strategies for Self-Regulation

1. Organizing and Transforming	3. Seeking Peer Assistance
2. Goal-setting and Planning	4. Seeking Adult Assistance

The school administration provided test results from the Kolbe Conative Index [KCI] (Kolbe, 1990) for current students and teachers. The Kolbe Conative Index is a way of measuring basic instincts for why we do things the way we do. The KCI has been shown to predict and quantify how one will act in a given situation (teaching or learning). I used these scores to help interpret the learning strategies obtained from the self-regulation questions to get at how students managed their learning and to triangulate for student productivity.

Procedures for Analysis of Teacher Interviews

The teacher interviews were analyzed using two types of coding: definition of situation codes, looking at how the teachers defined the setting of the Eagles' Wing and different situations; and process coding involving change over time. The teachers responsibilities changed over time as did their abilities. These skills were studied using the Woolfolk survey on seven roles of teaching identified as:

1. Teacher as Motivator
2. Teacher as Manager
3. Teacher as Instructional Expert
4. Teacher as Counselor
5. Teacher as Model
6. Teacher as Leader
7. Teacher as Reflective Professional

The first part of the interview was dealing with the history of the teacher. The second part of the interview dealt with the information

contained in the survey. Teachers were asked to rate these roles as to the level of importance for teaching on a 7 point Likert scale. They were then asked to rate themselves as to the level of strength they exhibited. We talked about how different areas had changed and what they were doing to deal with areas of weakness. Students were then asked to rate their teachers in these same areas as to how they perceived their strengths.

The Setting: Chesapeake Bay High School

Chesapeake Bay High School is home of the Eagles, *where learning takes flight*. The eagle is the school mascot. The student population is 1,513. The mission of Chesapeake Bay High School is to create lifelong learners and responsible, compassionate, literate citizens by melding the resources of students, staff, parents and community (Student Handbook, 1995-96).

Their learning outcomes are as follows:

- positive self-esteem
- concern for others
- responsibility and accountability
- proficiency in basic skills
- proficiency in higher order thinking skills
- self-directed learning
- skills in collaboration.

Chesapeake Bay considers high school as a journey to self discovery. Their philosophy states that each person is valued and a needed member of the Chesapeake Bay community. Each person is responsible for promoting positive learning experiences in a caring, equitable manner. The aim of the school is to enable all students to fully develop their academic, emotional, social, and physical potential, and thus be empowered to assume responsible citizenship in our local and global communities (Student Handbook, 1995-96).

The Eagles' Wing is a program of project-based and student-centered teaching and learning within the Chesapeake Bay High School. It is also where my research took place. The Eagles' Wing (EW) Program evolved through the collaborative efforts and shared decision-making of a committee of staff members, students, and parents. The program began in 1992 with 220 students and nine teachers. Today (1996) it has 125 students and seven teachers. The result is an educational experience with relevance to contemporary issues and with high student involvement. The program offers project-based, student-centered curriculum in a nontraditional way. Students are responsible for what they learn and how they learn it by how they structure their projects. The EW students also help develop a sense of community by the choices they make. EW staff highly value student choice and learning style differences.

The focus is on quality and off-campus experiences that are integrated into the educational experience of the Wing. It is a contextual based program because it allows the students to put their learning into a context that is most

meaningful for them. Philosophically it embodies a constructivist view of learning. Cognitive constructivists view learning from the perspective of considering that learners construct knowledge in the context of activity. The activities are authentic tasks that engage the world outside of school as part of the culture of a particular discipline. Students are more actively engaged in learning because they have chosen the tasks that are personally meaningful. Students must take ownership of the content.

Teachers become facilitators and resources for different content areas based on their levels of expertise. The teachers conduct classes where they teach collaboratively in what are called Hubs. For example, an English teacher and a history teacher facilitate the Hub for humanities which gives students a multi-dimensional perspective.

Everyone in the wing is a learner and a teacher. Teachers model this in how they relate to one another and the students. This was clearly represented to me when I first went to observe the EW as a possible research site. A group of students had come together with a couple of teachers to share the program of EW with those of us who had come to see their program. Following the initial introductions and the tour, we were gathered around a table for discussion. Students were as active in the conversation as were the adults that were present. One of the teacher's who was part of the original developers expressed some feelings of discontent. A student followed up on the teacher's statement and asked, "Do you feel that you have possibly outgrown the wing?" The teacher commented, "Interesting question, I think I'll

have to give it some thought, my first response is no, but maybe." It was an absolute delight to see the insight the student expressed and the honesty in which the teacher responded. I knew at that point I wanted to do my research there.

Basic Elements of the Program

The following guiding principles were developed by students and staff of the Eagles Wing for all who are part of the learning community of EW (Eagles' Wing, 1994):

- **Quality:** Value what you do and do it well.
- **Integrity:** Scam nothing nor anyone—especially yourself. Value truth.
- **Community:** Join EW community if you share our principles.
- **Commitment:** Keep your agreements. Do what you say you're going to do when you say you're going to do it.
- **Common Shared Experiences:** Share the governance of the community and the enjoyment of learning together (p. 4)

The Eagles' Wing allows students to develop individual projects and group projects. For example, a student may choose to join a group discussing the role of music and politics. The student projects integrate the historical perspective of the music and analyze it for its political position and issues that are raised. Another student may be doing an individual project on sound

waves and the speed at which they travel at different frequencies, thus integrating his ability with music into mathematics and science for understanding how sound can be used in auto mechanics. Student-centered teaching is designed to make learning meaningful, challenging, and relevant.

A student can earn credits through these individual or group projects. Individual and group contracts are designed by the students with help from teachers. Credits are earned in variable chunks as students complete projects, defend, and demonstrate their learning. Credits may focus on a single subject or come from different subject areas that are integrated in a project. Credits can also be driven by service learning projects such as running a weather outpost for the news channel, working at the school for the deaf, or other various activities that students develop.

The grading emphasizes quality and offers A/B choices only. Students are required to revise their work until this standard is achieved. The standards were developed by teachers, students and parents utilizing the Secretary's Commission on Achieving Necessary Skills (SCANS) report (1992). The SCANS report established the demands of the workplace and determined whether the current and future work force was capable of meeting those demands.

Students in the EW may take classes within the regular program at Chesapeake Bay such as foreign language, calculus, physics, or music and these are referred to as "pullouts." The teachers in the EW may also teach such courses in the traditional program as well as teach in the EW too. These

are also called "pullouts." The students graduating from the EW receive a traditional diploma as do other students and are awarded the official "wingnut" on a leather strap. Some of the activities students in the EW participate in are the following:

- creating a Personal Educational Plan (i. e., custom designing your educational future)
- pursuing opportunities for Service Learning and Career Exploration
- governing and maintaining the operation of the EW program
- managing school-wide recycling
- designing and leading group projects
- learning about your learning style and using it to your advantage
- acquiring useful workplace skills (i. e., time management, conflict resolution, team-building, and accessing inf. via Internet)
- participating in Project Adventure activities (i. e., ropes course challenge course)
- exploring personal interests and earn credit for it

One of the groups involved in the governance of the EW is the "OOPS" group. This group is formed to deal with problems that arise. "OOPS" stands for "Ongoing Opportunities for Problem Solving" and meets weekly. Project groups may develop out of a desire to get something accomplished for the community at large. For example, a project group formed to brainstorm a common experience that could bring the group

together for bonding purposes at the beginning of the school year. In the Spring, there was another project group that planned a celebration of learning for the end of the year as well as a time to say good-bye and honor seniors. Project groups can develop whenever students want to step out and take the lead or when teachers light a spark for some potential idea to take off.

VOICES OF THE EAGLE'S WING

...It is in fact nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to wrack and ruin without fail. (Albert Einstein, cited in Armstrong, 1987 p. 3)

Introduction

Chesapeake Bay High School Eagles' Wing Program has become a prototype for what many educators mean by high school reform. Its reputation throughout the district has been enormous. Yet it has graduated only a few classes of students. The way in which the program impacts the students is of vital interest to parents, community members, and administrators in education.

This first section looks at a summary of strengths and weaknesses graduates expressed concerning the wing; the voices of those students presently in the EW; and finally, the graduates expressing what they have learned as a result of their experiences in the wing. The third section looks at the roles teachers played and how students perceived those roles. Finally, how the Kolbe Conative Index can be utilized to inform educators about learning and teaching.

Strengths of the Wing as Viewed by the Graduates

All of the students liked the flexibility and the freedom in the EW because it helped to improve their time management, communication skills, interpersonal relationships, and a strength of self.

Time Management

All students spoke about how they learned to manage time as a part of the experience of being in the wing. The EW does not operate with bells to change classes and students work at their own pace on a project that they may have developed with a friend or by themselves. All students have a project plan and a time schedule for completion but no one consistently asks them where they are or reminds them to work on their projects. It becomes the students responsibility and they are accountable to the teachers that are tied into the project. Teachers are not central in this approach students must inform the teacher about their projects and where they are in the process. Teachers serve as facilitators of content knowledge and learning. Teachers knew students were growing dramatically as student initiative grew and the young people gained a sense of their own collective ability. But how did that happen? Here are some comments from students who have graduated that describe how their ability to manage time evolved.

The Eagles' Wing taught me to see I have one hour and how can I best use it and then do that because I had a tendency to be a procrastinator before I came into the wing. (Sophomore; Education major; Female)

I always thought I was pretty good at time management but when I came into the wing I realized the structure of the traditional program was what I was really relying on. I had to learn how to manage myself without a bell and teachers, that's when I realized I had a lot to learn about time management. It has helped me schedule fun times just like I plan study times. I reward myself now with free time. (Freshman; Pre-med.; Female)

I learned things that were not necessarily classes like time management because of the way it was structured-skills I could put to good use in college when dealing with a fraternity. There are a lot of distractions so I have to manage my classes, free-time and learn not to waste a lot of time on balancing all these different activities. (Freshman; Major undeclared; Male)

Communication Skills

Not only did the teachers of EW provide each student with help and support, they created a learning environment in which nurturing and respect for other ways of knowing was accepted and celebrated. Students were expected to demonstrate their learning in whatever way they felt was most appropriate using five basic questions: (1) "How do you know what you know?"; (2) "Who's speaking?" (identify the point of view in all its multiplicity); (3) "What causes what?" (connections and patterns); (4) "How might things have been different?" (deal with suppositions); and (5) "Who cares?" (why it matters). The questions were referred to as "Habits of the Mind" by the students and the teachers.

The wing gave me time to practice public speaking and how to present projects in way that others could understand.
(Freshman; Major undeclared; Male)

I was a strong student in the traditional program but I had a weakness in writing and in the traditional program I knew I had weaknesses but I never really had to deal with them in the traditional program but the teachers in the wing really helped me address those weak areas. (Freshman; Pre-med; Female)

The wing helped me in lots a ways. I learned to be more self-motivated, manage my time better and communicate more effectively with students and with teachers. I'm not afraid to talk with my professors because I have more confidence in myself. (Sophomore; Business and computer science major; Female)

Interpersonal Relationships and Sense of Self

Classroom experiences of project groups contributed to the development of close personal relationships with others. Students in turn learned more about themselves and developed their *emotional IQ* (Goleman, 1995). Researchers have emphasized the importance of interpersonal relations during the high school years (Walker, de Vries, & Trevethan, 1987; Yussen, 1985). Students' comments verify this importance.

I liked the way you could do group projects and you could decide what that project would be. I feel like group projects and developing your own ideas helped me make the transition into college easier. (Sophomore; Psychology Major; Female)

The wing gave me breathing space, it allowed me to ...well I felt like all education had been doing was hollering at me and in the wing I could find my voice and find out what I would do if I was

actually given the opportunity to do whatever I wanted to do. So I wrote poetry, produced a video, built a greenhouse and all kinds of stuff. I wrote my first poetry book in the wing and published it. I'm on my third book of poetry, I wrote the first two while I was in the wing. (Junior; Natural History Biology and the Arts; Male)

Other students talked directly about the way they could pursue areas of personal interest and develop themselves as a result.

I liked the way you could improve yourself personally. The freedom was such that you could make mistakes and still learn by revising where in the traditional program if you made a mistake you just dealt with it. (Sophomore; Business and computer science major; Female)

I was able to study things I was interested in like filming, flight, and aerospace engineering. The wing helped me not to overwhelm myself with learning because I love to learn and sometimes I would take on more than I could handle so I was able to develop boundaries for my learning. (Sophomore; Cinematography; Male)

I was an excellent student in the traditional program but I still had weaknesses, but I didn't know that until I was in the wing because I always did real well. In the wing you really get to know the teachers and they really get to know you and you really get to know yourself. The wing opened my eyes to learning and I'm a life long learner because they have shown me the real value of learning! (Freshman; Pre-med; Female)

Discussion of the Strengths as Viewed by the Graduates

What we see with the graduates is the importance of ownership in learning. These students gained insight into themselves as learners and began developing new skills where they were experiencing stress or

weakness. What I saw was how important the context was to learning. They had enough freedom to experience cognitive dissonance but not so much that they failed without recovery. Part of the learning was a result of learning to take responsibility for what they were doing and producing. The traditional program had provided so much structure that the students were not aware of what little structure they personally had. Understanding this issue of personal structure as a high school student was immediately transferable to college and work as graduates.

The students also talked about how the other skills dealing with communication, interpersonal relationships and knowing themselves as learners were skills that helped them to be effective in what they were presently doing. Learning how to articulate their point of view and communicate was another area of strength that the graduates spoke about as young adults. What we see is that through taking responsibility the graduates learned to be more responsible. They learned what their resources were, they were given opportunity to learn in ways that were meaningful to them as students and they learned to take advantage of the resources and the opportunities that were presented to them.

Weaknesses of the Wing as Viewed by the Graduates

The graduates found the weaknesses to be the flip side of the strengths. The flexibility and freedom related to program structure and activities affected their personal skill building and the depth at which they pursued different

curriculum content. Their responses fell into two main areas. First, program related issues seemed to affect personal skill building. The second concern focused on the students perception of ill-defined curriculum and structure. This was felt by the students in lack of teacher time devoted to students as they struggled with the delicate balance of the accountability that goes with freedom (i.e. too much teacher time versus too little teacher control over student and curriculum). Students struggled to take responsibility for how their projects influenced the curriculum and the courses. At times it was difficult to separate the issues.

Program Related Issues Affecting Personal Skill Building

Responsibility develops over time just as cognitive abilities. As students gain in their ability to handle responsibility parents and teachers tend to give them more. But what about the child that comes from an authoritarian parent/teacher style? How do they build their ability for greater responsibility and accountability? The authoritative style that invites discussion fosters compliance, empathy, and self-control (Macoby & Martin, 1983). Parents who use a power-assertive disciplinary style operating with physical rewards and punishment do not teach students to have better self-control, compliance, or empathy. These students tend to look for concrete results as opposed to internal satisfaction or dissatisfaction. Students must learn to internalize and process correction in order to affectively change behavior. Students also need opportunity and structure in order to learn

greater responsibility. The next student talks about the importance of messing up and learning from that experience in order to make a change. This requires greater awareness from the teacher in understanding the needs of the student.

Well, the freedom worked well for me because I could handle it but other students that couldn't would really mess up. And the teacher time was difficult at times because the teachers had pullouts and didn't always have the opportunity to catch it until it was a little late. But part of learning responsibility is being able to mess up and correct so I'm not sure what the balance is. (Sophomore; Business and computer science major; Female)

Lack of responsibility from the students and lack of constructive curriculum. Some students did not know how to deal with the freedom, and they would abuse it. And there was not a seriousness for learning and some of the abuse seemed to be supported by the teachers. Not that the teachers wanted students to abuse the freedom but they didn't seem to know exactly how far to let the students go. So there was a lot of looseness in the structure. Part of it was the development process and the teachers and the students were learning together and nobody had ever done this before. (Sophomore; Cinematography; Male)

These students are talking about the balance between teacher-directed and student-directed issues. A teacher must know the delicate balance of when and how to support the student in order for optimal learning to take place. Educators know that students must neither be bored by work that is too simple nor left to struggle alone when they don't understand and lack the skills to problem solve. Goals that are specific, moderately difficult, and likely to be reached in the near future tend to enhance motivation and persistence (Shrunk, 1991a & b).

Ill-defined Curriculum and Structure as Perceived by Students

Some of the students expressed frustration about program issues that were out of the teachers' hands, such as pullouts. Pullouts are classes that teachers are responsible for in the traditional program. Students talked about a scheduling problem that was affecting the course content and the teacher time. This was an on-going problem that did not have an easy solution because it was tied to funding.

Well, this sounds petty but the teachers weren't around a lot because of pullouts so it was hard to get a project group around the time the teacher was available. (Freshman; Major undeclared; Male)

Another student struggled a bit in talking about the negative aspects of Eagles' Wing. But, his criticism fits in with this other remark in that he would like more contact time with teachers in a workshop atmosphere because it fit the way he learned.

It seems a little unfair to criticize it (EW) as it was trying to evolve, I mean there were plenty of problems but it was in its infancy and really developing. I'm not sure what I would say. I wish they would do more workshop type of classes and I found I really like that type of learning. (Junior; Natural History: Biology and the Arts; Male)

Reform at the high school level is high stakes because students need to be prepared for the work force as well as for further education. The main criticism for integrating curriculum at the high school level is the fear that content subjects will get watered down. This seemed to be a concern that the

graduates expressed as well. But their coping strategies were such that they did not have any more difficulty than the student coming from the traditional program. What they did have that seemed to be missing in the students from the more traditional program was the ability to deal with perceived weaknesses. With knowledge doubling at today's rates, learning how to manage information and learning how to learn may be more crucial than how many facts one can store.

Some students talked about how courses were structured and the relationship of this to teaching style. They expressed feelings of uncertainty because of the informal approach and the level of responsibility given to the student. They wondered if they were really getting what they needed out of the course. Some students needed a textbook for structure in some courses but not in others yet all the courses involved mathematics and science. What made the courses more or less successful? How much was dependent on the learner and how much was dependent on the teacher?

I use to think maybe I should have stayed in the regular program for the content because math and chemistry in the wing was a little hard but, social studies was great! What I realize now was the grade was my reassurance and I didn't have so much book work so I wonder if it would have mattered for me. At times I had fear I wasn't learning but now I know I was learning in a lot more areas than I see many of the students I'm with now, so,... maybe more of a combination of content and the other things like project seminars. (Freshman; Pre-med.; Female)

One thing I found was I had chemistry and physics together with Mr. Smith and John is an excellent teacher and I love him but I felt like I didn't learn as much and part of that was my responsibility. But I didn't have enough background to really see how I could get into it. Like I had a physics class with Mr. Smith and six other students and it was awesome, Mr. Smith was awesome, we followed the text and met bi-weekly and did homework in between and it was great. Then I had pre-calculus and chemistry together I didn't feel like I got as much out of it and it was kind of hard so I sat in on the regular class (*this was in the traditional program*) and discovered other people were having difficulty too so we tried to develop a learning group but there were so few people it was hard, so I realize **I will get out of it what I personally invest**. But when I came to the school where I am now and I took calculus and it was fine. When I took the math- science block there were freshmen to seniors in that group and I found it was a little too general for me because you could apply it to biology, chemistry, or math because it was very general. (Sophomore; Psychology Major; Female)

I feel the program would be stronger if they were able to help students focus a little better and still let the freedom be there. Give them structure because that applies to real life because I don't know jack about the civil war, I don't know if that's good or bad but sometimes I see gaps in my learning like that and I kind of wonder. (Sophomore; Cinematography; Male)

Discussion of the Weaknesses as Viewed by the Graduates

Reform is not new to education and it is never easy. A study done by Public Agenda (Willis, 1994) revealed three reasons the public was skeptical. The first is past experience. Educators' track record with innovation is not good. He claimed people still talk about the failure of New Math. Second, he claimed educators aren't producing young people with strong basic skills. Third, it is difficult for the public to envision how innovations will work when their experiences were so different. A recent survey of Oregon teachers

revealed a need for greater accountability among teachers when moving from a basic to a standard certificate of licensure (Engel, Harper, and Smith 1994). It is revealed a lack of trust with institutions of higher learning.

Goodlad (1983), Eisner (1976), and Rubin (1985) believed the quality of delivery needed to be addressed and recommended a multi-modal approach. Rubin (1985) discussed artistry in teaching and the importance of professional judgement. Eisner (1976) articulated the model of connoisseurship and allowing novice teachers to observe and spend time with master teachers. Goodlad (1983) addressed the need for breadth and depth in teacher training programs. All three of these men are presenting sound ideas for educational practice but with the old paradigm of a factory model it is not cost effective. They are talking about smaller schools for training as well as classrooms, more collaborative effort between the university and the practice and teachers working together.

The Eagles' Wing tried to do this and when it finally broke down to student numbers, time and dollars it could not be done under the present administration. The EW graduates revealed the importance of teacher student relationship and caring professionals. They also talked about the fine line between chaos and structure in both content and environment where learning is optimal. This required a new level of responsibility from both students and teachers. That new level of responsibility was not always spelled out for either group but evolved out of the chaos. I was struck by the students sincerity and forgiving nature when they talked about the weaknesses but

knew that everyone was giving their best. This speaks to the resiliency of the learner.

Significant learning is frequently accompanied or impelled by discontent: "The learner does not learn unless he does not know how to respond" (Thelen, 1960, p.61). Constructive discontent is a necessary ingredient for all learning. These students were touching issues that are at the very heart of education.

Voices of Students Currently in the Wing

When reviewing the data on the strengths that current students saw in the wing, freedom and flexibility were the two words that surfaced most frequently. The freedom to choose gave the students a sense of ownership in what they were doing. A quote from Sylvia Ashton-Warner (1963), gets at the effect of such a climate: "...The drive is no longer the teacher's, but the children's own ... the teacher is at last with the stream and not against it, the stream of children's inexorable creativeness" (p.93).

Looking at the data more carefully the other three categories were further definitions of what that freedom and flexibility involved. All students viewed freedom and flexibility as a strength of the program. Several students spoke about how much time they could spend on a subject area they liked.

Students engaged in sustained conversations that would encourage them to develop their ability to express and argue for their ideas. They used

the five "Habits of the Mind" (Meier, 1995) questions as a framework from which they could present their position. The questions also taught them the importance of articulation, supporting their views, and knowing why.

Eagles' Wing faculty viewed students as members of different interest groups and grounded the curriculum in students' experiences and interests. The students claimed that flexibility and freedom were the greatest strength of the Eagles' Wing program.

Subject Interest and Time

Meaning and purpose are prerequisites for survival as Victor Frankl so clearly demonstrated in his book *Man's Search For Meaning*, first published in Austria in 1946 and later revised and updated (1985). Each of us must create meaning for ourselves. It is the creation of meaning that unleashes creative energies. This is what drives internal motivation. Motivation is defined as an internal state that arouses, directs, and maintains behavior (Woolfolk, 1995).

When there is meaning and purpose it is possible to do anything that life provides. Frankl (1985) stated it this way, when man has meaning...it is only a question of how he will respond based on his choice. Furthermore he quotes Nietzsche: "that which does not kill me, makes me stronger (p. 103)." Meaning and purpose provides the why for doing something. Motivation is the internal state that propels one towards a goal. Learners know what it means to be motivated, to have the energy to move towards a goal. Learners

also know what it is like to continue working when they are not motivated by the task that has to be done in order to obtain a greater goal. It is then, that one chooses to work because there is a greater meaning that over-rides the present dissatisfaction.

The more engaged students become the greater their motivation (Andrade and Hakim, 1995; Dodd, 1995; Strong, Silver, and Robinson 1995); and Tredway, 1995). Students who are engaged persist, despite challenges and obstacles, and take visible delight in accomplishing their work (Strong, Silver, and Robinson 1995). Some students described this as the freedom to choose what you studied and how. Others described the strength of EW from the approach that was used; student-centered or project-based.

I definitely like the freedom. I can choose when I'm going to do what, like if I wanted to do algebra for an entire day I can do that and in the regular program I can't do that. (Female; Grade 10)

I like that you can study any subject that you want, because in the regular school you can only go up through physics and I want to go beyond that. (Male; Grade 11)

I like the freedom that is here. Ever since sixth grade I worked in the library and had free time out of class, then in middle school I had two periods of video and worked on different projects. Here I can continue working with technology in different ways. (Male; Grade 10)

I liked the freedom to earn as many credits as you are willing to work. When I was a sophomore I was in the regular program and I discovered I needed to get more credits than would be

possible, because I'm interested in college prep and I have band, journalism and swimming and the wing allowed me to do that. (Female; Grade 12)

I like the project-based learning and the freedom that's given to the students. (Male; Grade 12)

I like the freedom of doing projects and learning what I need to learn when I want to. I like to do research stuff on the weekend and I don't necessarily have to be at school all day. (Female; Grade 10)

This next student is learning disabled and is on an individual educational plan. His learning disability is in reading and language but he understands himself quite well. When he is able to bring learning into a context that he understands, his learning really takes off. Working in a context that he was familiar with enabled him to develop his abstract abilities to a higher level and then apply them into new situations in order to learn more difficult concepts.

I like the freedom to be able to choose projects. I came into the wing as a sophomore from special education. I felt I wasn't learning what I needed. I'm interested in agriculture and I'm taking horticulture as a pullout. I use my agriculture work to help me develop projects. Then, when I struggle with learning concepts I can use my work with cows to help me understand, like with my math I think of something like, if you know she has 60 pounds for ...(he was talking about the weight in relationship to milk production and costs)... what's the cost for me. (Male; Grade 11)

Other students talked in terms of the freedom to learn in a way that is more satisfying to them as students.

When you're in a standard class, a lot of times, you get a whole bunch of just busy work-- If you don't care you're not going to retain it. You're going to do it --you're just going to do it to get it done but if you're doing projects and stuff you want to do, a subject that you're interested in, then you'll learn it and remember it. (Male; Grade 12)

What I like best is the freedom. It has always been important for me. My sophomore year I went back into the traditional program and I was able to get a 3.5 but I wasn't satisfied with the level of work I was doing. I realized the EW was the place for me because it was a challenge and the traditional program is not a challenge for me. I knew my follow through problem was something I needed to confront. It's been more stressful and more intense being in this program but I have learned more about myself and I'm much further ahead than what I would have been had I been in the regular program. (Female; Grade 12)

Positive Teacher-Student Dynamics

Students want and need work that will enhance their relationships with people they care about (Strong, Silver, and Robinson, 1995). It is through these relationships that students learn and know about themselves. The philosopher Immanuel Kant (1724-1804) implied; one can only know oneself through their relationship with another and the importance of understanding what affect ones actions have on the other person (translated by Beck, 1956). Some students found that the relationship with their teachers really made the difference in their motivation to learn.

I like that students can work more with the teachers and have more personal time and develop projects that they are interested in. (Female; Grade 12)

I like the freedom. I learn better when I can do things on my own, I like the administrators (a reference for the EW teachers) more than the normal teachers because they seem they are more in tune with what they are doing and they actually care about the students. A lot of other teachers in the traditional program don't seem to have the interest in the students like they do in the wing. The regular program somewhat suppressed my learning, it didn't let me learn because when teachers are too worried about getting assignments in and disciplining their students they're not focusing on teaching. (Male; Grade 12)

This next student was a freshman in the program but over the course of the year I saw such a transformation in her I interviewed her to find out what she thought about the wing.

I like the freedom to choose what you are learning and how you go about learning it. I also like the way teachers treat you, it seems like they really care and will take the time to get to know you. When I first came into the wing I dressed really weird and tried to look really different, but now I'm dressing more normal and not wearing the black lipstick and stuff (she was dying her hair wild colors like lime green, purple etc.) and it's because I don't need to do that to get attention any more. And I feel better about myself. I think it's because the teachers listen to me and talk to me like they care so I don't have to get their attention by doing weird stuff. The wing has been really great for me because I can be more in charge of my learning. And I have a voice to say what affects me and they listen. (Female; Grade 9)

I saw an opportunity to control my learning. In the regular program you get work sheets-- and then you get back a bunch of checks and corrections and stuff and here they tell you what you did wrong and how you can correct it and what you could do to make it better and you can revise and so I went from getting B, C or D in my classes, to just A's and B's. Last semester my grade point average jumped (Male; Grade 11)

I like that students can work more with the teachers and have more personal time. (Female; Grade 11)

Freedom For Other Ways of Knowing

Some students found the freedom to learn in the way that best suits them as an important aspect of the Eagles' Wing.

I like the freedom and the ability to work at your own pace on different projects and then to work with other people from time to time. (Male; Grade 11)

You get to work on your own projects at your own pace with your own learning style. I study mostly from my what I remember and understand and some from the text. I'm not very good at taking notes. Sometimes I go to the library and research a topic to try to understand it better. Then, I'll sign what I'm learning to help remember what I'm studying. (Female; Grade 12)

I like the freedom it gives me because I'm a self motivated person and it opens up opportunities for me that the traditional program didn't have. (Male; Grade 12)

What I like is that you can adapt any learning style and the traditional program is really only one learning style. I focus on one project all day long and then I work on another for a couple of days and come back to it. I work in blocks of time. (Female; Grade 11)

Everything you do you can get credit for it as long as you know how to present or demonstrate what you have learned. For instance if you grocery shop you can get credit for it and there is no busy work—all you need to do is learn. (Female; Grade 11)

Discussion

In *The Quality School*, William Glasser (1990) emphasized the human need to feel self-empowered. The wing promoted student initiative and

emphasized quality work. A key factor in the process of students taking initiative is their ability to choose. Choice is naturally empowering. It is the very foundation from which our government has been founded. The power behind democracy is personal choice.

It seems clear that current students want and need work that's relevant, permits them to express their autonomy, and develop who they are. That comes in part by balancing freedom and responsibility. The question for educators becomes: when is the structure so tight a student knows they don't need to take personal responsibility? Strong, Silver and Robinson (1995), revealed that students who are engaged in their work are energized by four goals—success, curiosity, originality, and satisfying relationships. Success is highly individualized. What is successful for one student may be qualitatively different for another. What motivates one student may in fact de-motivate another. Therefore, it becomes increasingly important for teachers to become students of their students. They can know how to direct their curiosity, encourage originality, and foster interpersonal relationships. This next section looks further into positive teacher-student relationships as well as peer relationships.

The student responses clearly show the importance of the teacher-student relationship. They described how the dynamic of that relationship transformed behavior. These behavioral transformations were the by-products of what was taking place in the learning environment between the student and the teacher. Henry Bender (1996) touched on the preciousness of

this relationship in an article on civility. He queried the Dalai Lama on kids today, by asking him how he (the teacher) can help prevent violence among young people today? The exiled religious leader acknowledged that many kids grow up in unhappy homes and are raised without affection but he also had this to say:

In Tibet, we have a saying: Many illnesses can be cured by the one medicine of love and compassion. These qualities are the source of human happiness and our need for them lies at the very core of our being. As a teacher, you should care about the human heart, not just about education. True compassion is not just an emotional response, but a firm commitment founded on reason. It is an attitude toward others that does not change, even if they behave negatively. Such values, he added, cannot be taught through mere words. Your students must see by your behavior that you are genuinely committed and concerned about their well-being and future. If they do, your students will trust and respect you, and the values your behavior reflects will leave an indelible impression on their minds. The compassionate mind is like an elixir; it is cap-able of transforming bad situations into beneficial ones. (p. 82)

In the previous section students demonstrated the empowering process of being listened to. This is one way to create meaning. Strong, Silver, and Robinson (1995), imply that students want and have a need to do work that permits them to express their autonomy and originality, enabling them to discover who they are and who they want to be. When other ways of knowing are valued and treated with respect it has a way of touching the soul because it creates a platform for originality. Traditionally we traded originality for conformity because it was cost effective and much easier to

grade. Now we realize, conformity takes the life out of learning. We no longer need to wonder why students lack motivation and meaning.

We can see through the responses of students that motivation increases when they have an opportunity for voice in what they do. When we are intrinsically motivated, we don't need incentives or punishments to make us work, because the activity itself is satisfying. Both rewards and punishments are ways of manipulating behavior that destroy the potential for real learning (Kohn, 1993).

Weaknesses of the Wing as Viewed by Current Students

Students readily took responsibility for the weakness of the program while identifying some problems that point to the system and the structure. Flexibility and freedom proved to be the most talked about weakness. Then problems that tied back into how the program was structured. Which related to program related weaknesses.

Flexibility and Freedom

The students seemed to be fairly candid with their responses and recognized their roles and responsibilities. They recognized how much responsibility was on the learner in a student-driven curriculum. Freedom is great but there are consequences for choices with which every student has to come to terms. The question becomes how much freedom is too much and when will students experience the "ah ha" which indicates that all learning is

self learning? This student saw some of the danger of not taking responsibility:

The freedom is exciting for you to be able to take charge of your learning but then the freedom can be negative because people take advantage of it and goof off. (Female; Grade 11)

These students talked about the dichotomy that takes place between accountability and responsibility as students begin to take flight in their learning.

A weakness I see, is that when students first come in there's a period of time where they're kind of lost. They're not sure quite what's going on cause they have to adjust from the regular system to a project based learning where they're not spoon fed stuff. So that's one of the real draw backs that they're working at getting over. (Male; Grade 12)

Probably the freedom because you can do what you want to do and that's not always good. (Female; Grade 10)
I would have to say the freedom. Too much freedom; cause like my freshman sophomore year I had a lot of family problems we had four deaths so I had trouble and was a bit of a trouble maker then my second semester of my sophomore year I began to change. I wanted to get going with my life. It's kind of difficult because not everybody knows how to manage the freedom. So maybe you shouldn't come in here if you don't know how to handle it. Yet that's a little difficult because you don't learn to handle freedom unless you get a chance to have the freedom. (Male; Grade 12)

It is really hard when you don't have the motivation. Sometimes I just want to sit back and not do anything then I realize I have to get my credits. At the end of last year, it was just hectic trying to pull everything together and manage my own learning and do everything the teacher told me. (Female; Grade 10)

A little bit too much freedom at times because not everybody knows how to manage the time. (Male; Grade 11)

Probably organization. It's hard to get people organized and get things done. They're suppose to do that on their own but people want to just sit down and talk and it's hard for the teachers. (Male; Grade 10)

There is a lot of freedom and a lot of students aren't as independent learners as they thought and that can be a problem. (Female; Grade 11)

I procrastinate too much but I have learned more in this program about myself. (Male; Grade 10)

A weakness I see is students not doing what they should do and not getting their work done. It's very easy to just not do your work in here. (Male; Grade 12)

Teacher-Student Dynamic Affected by Program Structuring

In addition issues of flexibility and freedom another group of students saw problems that were related to the program structure. The EW teachers had responsibilities in the regular program where they had to teach other courses and students had the opportunity to take courses in that traditional program. These pullouts made it more difficult for students and teachers to meet. Teachers and students expressed feelings of being pulled in different directions.

I've been in the wing for three years. There used to be more teachers in here during the day monitoring, making sure you were not doing things you're not suppose to do, and then they could help you, too. So the weakness this year is

that the students aren't doing as much and there seems to be fewer teachers and they seem to have less time.

(Male; Grade 11)

A weakness I see is meeting with teachers and scheduling meetings with teachers and group project members because the teachers have pullouts and so do the students so it is real hard at times. (Female; Grade 12)

Meeting with teachers and scheduling meetings with teachers and group project members because the teachers have pullouts and so do the students so it is real hard at times.

(Male; Grade 10)

Right now I think it is the accountability between the teachers and the students. Just this year I'm making meetings with teachers that I know I need to meet with that I have avoided in the past. The first two months of school I didn't meet with any teachers because I've been so instrumental in working with the teachers they trust me yet at the same time I still need that, that help. But with less teachers available there's just not enough time to get to all the students and the teachers have this program to worry about and the other program so it puts a double load on the teachers dealing with their pullout and the students in the wing. (Female; Grade 12)

Teacher accessibility, like with me for example I have the first periods in the Eagles Wing and in then I have pullouts but the teacher I need to meet with has pullouts in the morning, so it takes a lot of time to get things done because of the communication problems due to our schedules. (Male; Grade 12)

Well, if you're not a very motivated person and you think you can sit around and get credit it's a mistake. A lot of people come in and it's their freshman year and they don't understand what credits mean and so they sit around and talk with their friends like in middle school and think they can get credit and then go to college, but it's great for mature students. (Male; Grade 12)

We need more computers and there is a lot more time for students to mess around. (Female; Grade 11)

Uhhm sometimes teachers can get a little pushy about trying to interpret your future for you. And it is sort of hard to round up teachers to talk about projects. (Male; Grade 10)

Discussion

Students seemed to bring a problem to the surface that may have alluded the parents, teachers, students, and administrators when they were developing the program on paper. It is possible to do more than one associative task at a time but only one cognitive task (Lavoie, 1990). An example of a two associative tasks that we do all the time is driving and talking. But a change in road conditions or weather makes driving a cognitive task and we stop talking and give more concentration to driving.

Teaching for the master teacher may in fact be an associative process. Expert teachers work from integrated sets of principles instead of dealing with each event as a new problem. Many of their teaching routines are automatic but transitioning from one program to another where there are different philosophical suppositions may in fact have created a cognitive process resulting in fragmentation for both teachers and students.

Teachers and students had to plan around each of their schedules and those schedules varied considerably in a given week. Teachers and students felt the tension of interruptions that the pullouts created. Some students saw it as a time to take advantage. Others saw it as a time to develop greater

responsibility and communication skills. I felt the students were fairly candid about who owned the problems and where the responsibilities lay. It requires parents, teachers, students, and administrators to come together and study the problem in a more wholistic manner and for each take responsibility of problem ownership where it is appropriate. Bringing all parties together is not an easy task physically nor psychologically when any one of the parties is looking to blame the other. This is a matter that must be handled delicately in every respect.

How did the Wing Prepare the Graduates for Their Next Step?

Before we look at the data for clues about how Eagles' Wing prepared its graduates for higher education or the work force, it is important to keep in mind that the following initial results reflect the influence of several variables one of which is the graduates' high school education. For example, financial pressures played a role in the decision of one student in matriculation for one year. Several students who expressed interest in the study later declined interviews because of work and schooling schedules. These students were also preparing for graduation from college.

All of the students felt that their experiences in the wing either prepared them directly or indirectly for making their transition from high school to higher education and work. In order for students to become self-regulated learners they need knowledge about themselves, the subject, the task, strategies for learning, and the contexts in which they will apply their

learning. All students talked about knowing themselves as learners and provided different examples of how they applied their knowledge in the context in which was needed. The following two examples illustrate this point.

I'm a pre-med major and I had general chemistry II with a professor who was a very poor teacher for me. I just wasn't understanding what I needed to do or know in order to do the labs. I wasn't the only one feeling this way. My roommate was having the same problem and she had been in AP Calculus and was on scholarship... well I knew I had to do something or I wasn't going to pass the class. So I interviewed the five lab assistants we had and felt like I could really work with two pretty well and they were very willing to help deal with the questions I had. So I would read my text and go over the labs as well as I could to find out where my gaps were and then I would meet with them. And when I had a question from lecture I would discuss those questions with them. I also made sure I had read the material before class so I could at least understand some of what the professor was saying. So, I didn't give up. I went to find help wherever I could. My roommate on the other hand gave up and dropped the class. She'll have to take the class again. I was very pleased with my grade at the end of term, too! One of the most important things the wing gave me was how to utilize the resources around me to meet my needs. I saw help available to me when I looked seriously, my roommate didn't. I don't think she knew how to either nor did she want to either. I think that's where I was when I came into the wing. A kind of arrogance that I know what I'm suppose to do and I know how to do it, so do it. And if you ask for help someone might think you don't know. (Freshman; Pre-med; Female)

I think the wing helped me to be able to express my thoughts verbally and in writing and also time management. I know that I won't be able to do quality work if I wait until the last week to work on something so I must work on things steadily, a little bit all the time and to not give up when it seems hard. Like finding that when you read something and you hate it and don't think you got anything out of it the fact that you hate it says you got

something. And learning to express that. Some people will say I didn't get anything and I didn't know we were suppose to write a paper, we didn't have to write a paper but if that is what it takes for you to learn, then write the paper. Learn to express what you think in some form. You really have to know how you learn; it's real important. Knowing my learning style helped me create my own learning group. Like, I study with four other people and you actually advertise your learning style to look for people that will help you get your work done. So we have this group of five with different dynamics and we all build off each other it's really great, awesome. (Freshman; Undeclared major; Female)

The young man quoted below lives on his own and supports himself through work that he gets through the film center in Portland. He has quite a bit of technical ability and uses those skills entrepreneurially. He is attending the local community college part-time. He also spoke in terms of himself as a learner as well, yet there is an element of personal management that has helped him transition into work and represent himself well:

The wing helped me not to overwhelm myself with learning because I love learning and sometimes I would take on more than I could handle so I was able to develop boundaries for my learning. (Sophomore; Cinematography; Male)

The following student spoke about general problem-solving abilities and being able to think things through. He talked in terms of skills that were practical for living.

The skills learned in EW I have been able to put to great use in college like managing my time and dealing with a fraternity. There are a lot of distractions and so I have to manage my classes, free-time and learn not to waste a lot of time on balancing all these different activities. I learned a lot of problem-

solving skills that I use a lot up in Seattle. For example, we were downtown Seattle and the buses had already stopped and we had to figure out how to get back to the fraternity house. Just a lot of life skills like problem solving and dealing with other people. (Freshman; Major undeclared; Male)

The next student talks about becoming more confident in herself and her ability to access resources. As a result her communication skills have improved and her ability to deal with feedback constructively has grown.

The wing helped me in lots of ways. I learned to be more self motivated, how to manage my time better, more effective communication skills with other students and with teachers. I'm not afraid to talk with my professors here at Fox because I have more confidence in myself. I discovered other ways of learning things and how teachers can be a resource as much as a text. I liked the fact that we were not limited to the library for our resources I could interview a professional person working in the field and things like that. For example, when I was a sophomore in the regular program I did a report on sports. I wanted to call a local sports caster or someone who was involved with sports but I was too scared ---- now I would pick up the phone and call. I also liked the feedback you would get from teachers and other students it made us feel more like a team or a learning community. Teachers didn't do so much lecturing they were more facilitators and helped you in specific areas when you needed it. (Sophomore; Business and computer science major; Female)

These students really seemed to know themselves as learners and people. They were able to market and use their skills whether they were in a school setting, life situation, or working. They talked with tremendous fluency and boldness while demonstrating meaning and purpose. Strong,

Silver, and Robinson (1995) revealed that people who are engaged in their work are driven by four essential goals, each which satisfies a particular human need: *success* (the need for mastery), *curiosity* (the need for understanding), *originality* (the need for self-expression), and *relationship* (the need for involvement with others). The acronym for these four goals spells out SCORE a model for what it means to strengthen student engagement. The concept of "score" is a metaphor about performance, but one that also suggests a work of art, as in a musical score (Strong, Silver, and Robinson, 1995). It aimed to bring achievement and artistry together. These graduates had learned what made them successful. They intentionally did things that maintained their curiosity. One student talked about taking nature walks to slow down the noise created by taking in too much content without time to process. Another wrote poetry; all dialogued with others. Each expressed originality very naturally and demonstrated how they went about doing different things. The graduate students were also very bold about letting me know that they needed other people. They were able to meet these needs in a responsible manner.

Learning had come alive; it was not something that just happened within the confines of a place called school. It was a way of life. The students had a freshness about them. They also had a sense of themselves as competent and successful human beings. These were students who had been drawn out and in so doing had tapped into themselves as people and were on a journey of discovery becoming life-long learners.

What Does it Mean to Self-Regulate in a Student-Centered Approach to Learning?

As educators move towards a more wholistic approach to teaching and learning the questions of self-regulation and motivation become increasingly important. Education has had a decade of research on learning strategies and understanding self-regulation within the traditional structure of schooling (Bandura, 1977; McCombs, 1989; Schunk, 1989; Weinstein, 1994; Weinstein & Mayer, 1986; Weinstein & McCombs, in press; Zimmerman & Schunk, 1989; Zimmerman & Martinez-Pons, 1986). But how is that different in a student-centered approach? This is the question that has driven this study over the past two years.

Self-regulated learners have a combination of academic learning skills and self control that makes learning easier, so they are more motivated to learn; in other words, they have skill and will to learn (McCombs & Marazano, 1990; Weinstein & McCombs, in press). I evaluated how all the students in the study managed their learning using learning scenarios in which students were asked how they would handle a realistic situation. This strategy came from Barry Zimmerman's research presented at the 1995 American Educational Research Association in San Francisco. High achieving students used four main strategies: goal-setting and planning, organizing and transforming, seeking social assistance from peers, and teachers (Zimmerman, 1995).

The learning strategies identifying self regulated learners were well developed in these Eagles' Wing graduates. Four learning strategies that were used by high-achieving students in Zimmerman's study were also strong in these graduates. These are marked with * in Table 4.

Table 4. Learning Strategies of Graduates
n = 7

Self Evaluation	100	*Seeking Peers	86
*Organizing & Transforming	100	*Seeking Teachers	71
*Goal Setting & Planning	100	Seeking Adults	29
Seeking Information	100	Reviewing Test	29
Recording & Monitoring	100	Reviewing Notes	86
Environmental Structuring	100	Reviewing Text	71
Self Consequences	86	Technology	71
Rehearsing & Memorizing	71	Motoric	71

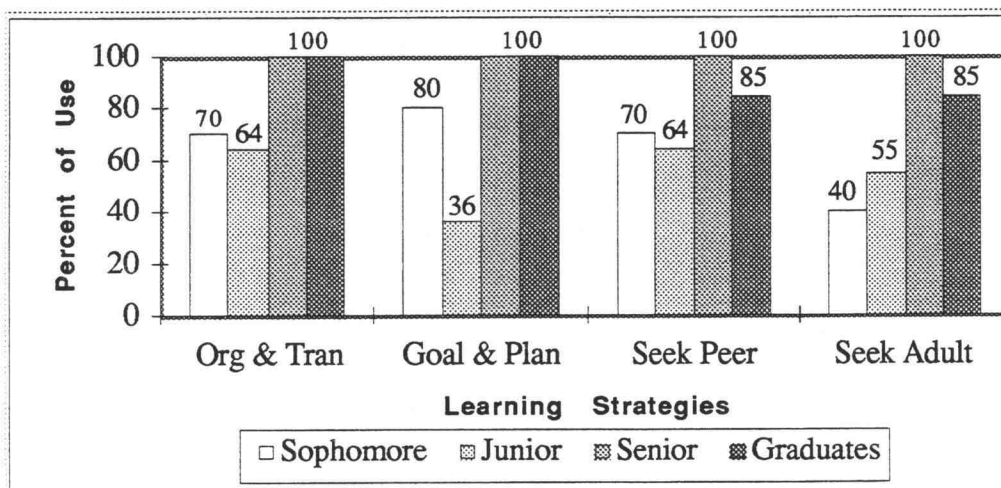
(Percentage of the students who used the learning strategy)

Looking at the students currently in the Eagles' Wing we see a bit different picture with these strategies of organizing and transforming, goal setting and planning, seeking peers and seeking teachers for assistance. I have included all students in Figure 6. It is possible to look across groups and see the differences.

In the learning strategy of seeking teachers for assistance there is a natural progression upward based on class standing until the graduates. The graduates seek the assistance of peers as much as they seek the assistance of teachers. Seniors show this same pattern of equally seeking peers and teachers. This may be a result of maturity as students become more confident in who they are. They may also be more aware of their resources and they take a more balanced approach in the use of these resources. It is clear that the graduates and seniors utilize most of the learning strategies that are summarized without astricks in Table 4.

Figure 6. Self-Regulated Learning Strategies of EW Students by Year.

Graduates n=7 Seniors n= 12 Juniors n= 11 Sophomores n= 10



Seniors and graduates use all four strategies at a very high level. These same students were complimentary about how the Eagles' Wing had taught

them to learn. The seniors and graduates of the Eagles' Wing are highly self regulated learners today, but in reading their interviews they talked about how they had to develop their abilities through their experiences in the Wing.

Of the students currently in program, 16 out of 30 (53%) did not use organizing and transforming of information or goal setting and planning as learning strategies. When looking just at sophomores and juniors 10 out of 21 (48%) do not use goal setting and planning and 8 out of 21 (38%) do not use organizing and transforming of information. These same students are at risk in a program where the students drive the curriculum through their interests and projects if they cannot structure themselves. To understand this further I looked at student productivity. Student productivity was measured by the amount of credits obtained in relation to the number of hours in the Eagles' Wing. Somehow between the sophomore year and graduation, EW graduates learn these skills.

The current students with the lowest productivity scores were also missing either one of the two learning strategies of *organizing and transforming* or *goal setting and planning*. In three cases they were missing three out of four of the learning strategies listed above. One student that scored low on productivity was also missing all four learning strategies. When looking at student productivity, the students in the study had the will to learn but lacked the skill.

One could say that these learners were in a process of gaining information about themselves and how they learn. The student and the teachers would need to work together to assess whether they had a learned helplessness or whether it was an issue of how they viewed responsibility in terms of attribution theory.

Traditionally these students had been in a system where the learner was in a more passive role and the teacher was the 'sage on the stage and the purveyor of knowledge' as one teacher put it. Now they were in a program where the students were in the driver's seat and this was a new experience for all of them. They may or may not have had all that was necessary for them to be successful.

Many of the students know what works and what doesn't work for them because they shared that through the interview process. But, making the transference of how to apply that knowledge may take some time. The graduates gradually gained those skills for learning over time, this came out in the interview process as they shared their experiences. Emotional maturity developed over time and this also was clear from the interview data.

Lyn Corno (1992) described four cases, each revealing a different aspect of the learning environment, that encouraged student volition and responsibility for learning. Her profile described the same learning environment EW students had experienced. In the first case, freedom to pursue personal interest and to develop ideas without fear of evaluation proved to be the element that engaged students and caused them to complete

assignments. The second case was when students were allowed to do revisions. It helped students take more responsibility for being clear in their writing. In the third case Corno talked about the role of peers involved in the learning process. When students studied together, they often asked questions and made suggestions about each others' work. This prompted the students to become more reflective and thoughtful about the tasks in which they engaged. The final case described students learning to program using LOGO. This is a computer based program. This involved procedural knowledge and a more kinetic approach to learning. The Eagles' Wing students had a computer center set up where students could use certain programs for mathematics and word processing. This allowed students to develop their procedural skills through a more kinetic approach to learning.

The Eagles' Wing teachers created these same environments for the students in their program. For example, the curriculum was driven by student interest and workshops were developed according to major content areas and student interest. Students also had the freedom to learn in any way and in any length of time that would prove helpful to them as learners. The grading policy in the Eagles' Wing required revisions until the standard was met. Revisions became a part of normal development and students could see the changes taking place. There were also strong peer interactions through project groups so they learned to value one another as learners. Project groups created the environment that demonstrated the power of learning partners.

Different opportunities for hands on types of learning took place through many different ways such as sewing projects, programs for the computer, video development, and 'project adventure'. Through these different learning opportunities students also had the opportunity to practice procedural knowledge skills.

When one considers the connections between research and practice in the Eagles' Wing one can see how motivation to learn increased and the skill and will for learning developed. Skill is defined as the learning strategies that one develops and the knowledge of when and where to use them. It is no wonder the graduates and seniors used so many learning strategies as young adult learners because they were highly self-regulated. Self-regulated learners know when and where to apply their learning strategies in order to be effective students.

Teaching Roles: Teachers' View of Themselves and Students' View of Them

Teaching by its nature requires change and flexibility it. This is part of what it means to work in a dynamic system. Change in education is taking place on a national scale. Some change is gradual and some more rapid. In order to deal with change, a certain level of flexibility is needed. Change takes place on several levels. The institution of education is groaning as it were, trying to accommodate all learners. Teachers feel the effect institutional changes that, in turn, require them to make changes. Some of those changes are exciting; some are de-stabilizing.

As I spent the day initially assessing the site, I was struck by how much change these teachers, students, and administrators had taken on. There was a certain excitement for what they were doing and the students showed a passion that was refreshing. At the end of the day several teachers were gathered around asking me what I thought. Would I in fact be willing to research their program and its effectiveness? I told them I would and I was struck by the fact that their school mascot was an eagle and I thought about the life cycle that the eagle experiences. The eagle has always been a special bird to me and I have studied it at different times throughout my life. I shared my thoughts:

I said, "Your name *The Eagles Wing* is quite appropriate for what you are doing. I am reminded of the renewing process that an eagle goes through. Eagles are known for their soaring ability and their ability to seek out their prey. But they go through a self renewal process every seven years. They go to a high place on the side of a mountain or a tree and begin a process of tearing out their feathers. The feathers lose their loftiness from oil and debris in the atmosphere and it prevents the eagle from flying at the heights that they are accustomed to flying. Then, when all the feathers are gone they begin to tear off their talons. Calcification forms on their talons and they lose their accuracy in grabbing their prey. But it doesn't stop there. They break their beaks against the rock because calcification of the beak prevents accuracy in attacking their prey. Now they have no feathers, talons or beak, and they sit, waiting for each of these things to grow back. We don't really know how long this process takes but you can see why it is important for them to hide.

I sense this is what you have had to do in how you view education and learning. You have had to literally examine what are the essential elements of the teaching/learning process. What has become laden with debris as result of the environment that you really need to throw away because it prevents you from soaring at the heights that you enjoy. What do you do in education that has calcified, it's been good and necessary but you've lost the edge and grown sloppy as a result?

Am I willing to lay it down and re-examine its relevance and level of importance? What am I willing to throw away and what are the new things I need to develop? Do I have the level of patience necessary to allow myself to be a learner along with the students? You have literally placed your professional integrity on the line to be examined by each other and students. You have willingly let go of practices that you used in the past to control students and demand performance. I can't help but ask, how has that felt?

A teacher spoke with eyes moist,

You have just put into words how I have felt... vulnerable, scared and not sure, yet knowing I've come too far to turn back. I feel too much a part of the learning community with the students and teachers I could never go back to the self-contained classroom. And I'm soaring at heights I never dreamed I could. I'm seeing my students from Special Ed growing in ways I could never have imagined. These teachers have witnessed a transformation process in me and that's only the surface of what has taken place, it goes much deeper than that.

I knew what I had experienced was the heart and soul of teaching and learning. The students and the teachers were experiencing a transformational process that was horizontal and vertical at the same time. What this means is when a skill "slides" from the training situation to the workplace, the process is a horizontal transfer. When additional learning is required to make the transfer, the process is vertical. The horizontal transfer was taking place because they had changed the teaching / learning environment. They were no longer in self contained classrooms and boundaries had changed drastically. Teachers were now teaching with other teachers and students were invited into the teaching process as well. Teachers and students experienced problems they didn't know would exist. Some of their old

problem-solving strategies could be used but new ones had to be developed. They had changed their context so greatly that they were forced to use their problem-solving strategies at a whole new level.

When teachers tried to apply student-centered teaching in the workplace (e.g., the classroom), they had the students' needs, characteristics, and the teaching environment to contend with as well as their own level of comfort (e.g., their needs and characteristics). There were no coaches to come along and say this is what student-centered learning and integration looks like at the high school level. They were having to feel the same cognitive dissonance that we try so delicately to balance for students.

The teachers were making a paradigm shift in what they thought about teaching and learning. They could not simply go out and practice skill "X" whether the student needs it or not; they had to wait for the appropriate opportunity, and exercise judgment about when and how to employ the skill (Joyce and Weil, 1992). They no longer had an audience that was required to be there. The courses they proposed had to be of interest to the students or they just wouldn't happen. I asked the teachers if that was much different than in the traditional program? One teacher responded:

Not really, I teach two classes in the traditional program and attendance there is a horrendous thing. In the first period class almost every day there are ten to eleven absent, which means a third of the class is gone almost every day.

The only difference, this class was scheduled to go whether a third of the class was there or not there. If there were X number of students registered that was how it was determined, not whether students attended. In the EW the courses were developed with the students. So if a course was not relevant for the student it didn't happen.

How does a teacher foster knowledge, desirable attitudes, and skills in students to become life-long learners? It is a complicated process that requires creative thinking and a commitment to lifelong learning for the teacher as well. Expert teachers like expert dancers or artists have mastered a number of moves and routines that they can perform easily, almost without thinking. The automaticity of certain routines frees the mind of the teacher to focus on analyzing a problem and mentally applying different principles (Swanson, O'Conner & Cooney, 1990). As teachers learn different kinds of models and strategies for teaching they can change the learning environment as they assess how students are coping.

Expert teachers are not bound by their plans but can follow the needs of the students (Borko & Livingston, 1989; Sabers, Cushing & Berliner, 1991; Tochon & Munby, 1993). They can turn students' confusion into understanding by helping students organize and expand upon what they know. Teachers have an awareness of their own thinking and draw on their professional knowledge to help facilitate learning. Lee Shulman (1987), studied what teachers know. He identified seven areas of professional knowledge that expert teachers have:

1. The academic subjects they teach
2. General teaching strategies that apply in all subjects (such as principles of classroom management, effective teaching, and evaluation)
3. The curriculum materials for their appropriate subject and level
4. Subject-specific knowledge for teaching: Special ways for teaching certain students and particular content, such as the best way to teach negative numbers to lower-ability students
5. The characteristics and cultural backgrounds of the learners
6. The setting in which students learn—pairs, small groups, teams, classes, schools and community
7. The goals and the purposes of teaching

This is quite a list of abilities and it is learned over time in many different ways. I have found that a key element to my growth as a teacher has been through a reflective process. Reflective teachers think back over situations and analyze what they did and why, to consider how they might improve learning for their students. Other educators believe the mark of an excellent teacher is not the ability to apply techniques but the artistry of being reflective—thoughtful and inventive—about teaching (Schön, 1983). I wanted to see what the teachers thought of the reflective process and how they viewed themselves as professionals.

The Woolfolk survey which was administered to teachers and students identified seven roles of teachers: motivator, manager, instructional expert, counselor, model, leader, and reflective professional (Appendix C). The teachers rated them as key elements of teaching with the scores ranging from

five to six on a 7 point Likert scale in which one was low and seven was high. The teachers indicated that in the Eagles' Wing they leaned into each other's strengths when they perceived a personal weakness, all the while building skills in the areas where they had a weakness. One teacher put it this way:

Everybody knows that Mrs. Marrs has great counseling ability and I have leaned into her strength but at the same time I have gained better interpersonal skills myself over the past three year. (Mathematics Teacher)

Students also rated the teachers on the same key elements. Students seemed to know the teachers' strengths and weaknesses and would solicit help with the instructor who had the strength they needed. For example, one teacher high in organization and developing plans seemed to have students come to her when they were in need of developing a plan and structure. Another teacher rated the counselor as both important and a personal strength. The students also rated this teacher high in personal strength as a counselor. Most of the teachers felt their training did not equip them to deal with the issues their practice had forced them to deal with in relationship to counseling though. Also there was not a overt attempt to establish one another's strengths; these naturally developed through the relationships that they had with one another.

These seven areas are presented in a table with recorded averages based on the level of importance for teachers and perceived strength and how the students perceived those strengths in the teachers (Table 5).

Table 5. How Teachers View the Seven Roles of Teaching and How the Students View Their Teachers

	TVI	TVS	SD	SVS	SD
Motivator	6	5.2	SD 1.37	5.7	SD .58
Managers	5	4.5	SD 2.07	5.3	SD .54
Instructional Expert	6	5.5	SD 1.38	6.2	SD .33
Counselor	6	4.7	SD 1.7	5.1	SD 1.03
Model	6	5.6	SD 1.51	5.7	SD .57
Leader	5	4.3	SD .52	5.8	SD .78
Reflective Professional	6	4.7	SD 1.37	5	SD .55

Reported averages on 7 point Likert scale in which 1 is low and 7 high. Teachers View Importance and Strength, and Students View Strength along with reported standard deviations.

The students all viewed the teachers' strengths about the same or higher than the teachers. The students' perception of the teachers' strength seemed to fit between the level of importance teachers' gave it and how they viewed themselves. They were generally walking their talk. Overall, teachers felt that they lacked the counseling skills to deal with the issues students were facing. You can see this in the individual ratings. They recommended more training in understanding psychological issues of students and techniques for counseling at a basic level. They recognized the need for trained counselors but felt that many of the issues were better solved with the teacher because of the context in which they happened. The

recommendation from the teachers was that they should have some skill and training in counseling and bring professional counselors in as needed.

When you look at the individual strengths and how the students viewed them (Table 6) they were also consistent with respect to the perceived strength or weakness the teacher expressed.

Table 6. Perceived Roles of Teachers by Both Students and Teacher
n=7 Teachers and n=33 Students

Teachers	1		2		3		4		5		6		7	
Roles	TS	SS	TS	SS	TS	SS	TS	SS	TS	SS	TS	SS	TS	SS
Motivator	3	5.6	5	4.9	5	6.2	6	5.8	6	5.3	-	6.6	3	5.3
Manager	6	4.6	3	4.9	7	5.8	3	5.5	2	4.8	-	6.0	6	5.6
Instr. Expert	4	5.9	6	5.7	7	6.5	5	6.3	7	6.0	-	6.5	4	6.5
Counselor	3	5.9	4	3.6	7	5.4	5	4.9	4	4.5	7	6.8	3	4.8
Model	5	5.5	7	4.8	5	5.9	3	6.3	7	5.3	7	6.4	5	5.9
Leader	4	5.6	5	4.5	4	6.6	5	6.3	4	5.2	-	6.6	4	5.7
Refl. Prof.	4	5.3	5	5.2	7	5.8	5	5.3	3	5.5	-	6.6	4	6.3

Note: Likert scale 1-7 TS-Teacher view Strength SS-Student view Strength

*Teacher # 6 did not complete the survey

Teachers felt motivation was important for teaching and learning, and they rated it a 6 on the Likert scale. But, there was quite a difference in how they personally viewed their own strengths. As one teacher explained, "Learning is infectious—if you get someone excited about something—they will learn. If they don't care they won't learn." Another teacher presented it this way, "Students will learn when they are ready—to truly learn, they need

to be intrinsically motivated." Motivation was important for the teachers, but it was an issue of personal responsibility for the students.

The role of managing was not as important as some of the other areas for teachers. It seemed like a necessary evil and it was a factor for survival.

There seemed to be a tension similar to motivation. One teacher expressed it this way,

I'm bothered by manager and I shouldn't have to be, yet there's a very fine line between managing and establishing the boundaries part of that. It has to do with a teacher honoring who she is at the same time she is concerned with her students because I think students need to see that teacher as a human being also. Today in the writing group we were talking about the new format and taking it up a notch. I was saying we will write an essay every week and two of us will know those pieces are going to be read so you'll always know when that's coming. One of the kids said, Ms. Brown isn't writing anything, will you do that? I said, sure I can do that but that's real scary and they said scary? You're the teacher, and I said, but that never goes away. They need to know that and that's what I think about managing, it's their taking the responsibility etc. I really never had much trouble managing.

Researcher - So, it's not- you're the manager but a shared cooperation of management between the teacher and the student?

Teacher - Exactly, but they don't want to hear that. They don't want to hear how I can teach if I'm also scared?

Researcher - The key is learning how to handle that tension of responsibility along with honesty and integrity with students.

What the teacher was talking about here was the level of accountability and responsibility that teachers and students need to take. The teacher is not the sole manager but students have an accountability factor themselves. It

means learning to take responsibility and deal with the tension of uncertainty without developing a learned helplessness. It is essential for teachers to model the tension of taking responsibility and wishing someone else could be responsible. The EW teachers had more responsibilities for running the program compared to teachers in the traditional program. Things that would have been covered through administrative support and bell schedules were now their job. The students also had greater responsibility. In a way, it was a self regulation issue for both students and teachers.

I asked several teachers how they could improve their areas of weakness. Two teachers, both three years from retiring, gave responses that were part jesting and part reality: "after the leopard changes his spots..." "retire....walking your talk with integrity." Is there any hope for change? I would say "yes". Both have taken on projects that are efforts for improving the educational process. These are teachers that know how to laugh at themselves, that genuinely care, and have a passion for what they do. When we talk about reform, changes are taking place on many different levels and some at a very personal level. Change is never easy even when it is desired.

How Does the Kolbe Inform us About Teaching and Learning?

The Kolbe Conative Index (KCI) was developed using a criterion-group approach, while working with educational institutions and organizations to identify gifted children and high potential employees. Through a refining process, Kolbe categorized behavior patterns relative to four creative

instincts and developed operational definitions for insistence in each of the four action modes of the KCI. The purpose of the Kolbe in this context was for triangulation only. Did the Kolbe results match what the students said and what was observed by the researcher. The Kolbe Conative Index yields both ipsative and normative results. Ipsative looks at the strength or weakness of traits for individuals. Therefore, the strength attribute is based on how the individual ranks it.

Reliability of the Kolbe Conative Index utilized a process of internal consistency and test-retest. Test-retest correlations ranged from .69 to .85 and for 90% of test-takers modes of insistence remained the same. The KCI uses criterion-based and construct validity methods to verify whether the test measured what it said it was measuring.

All 125 students in the Eagles' Wing, along with the teachers, took the Kolbe Conative Index (KCI) as a part of their program for understanding teaming and their approach to learning tasks. A synergy report was generated to see if the population sample differed from the entire EW population (Tables 9 & 10). Synergy is defined by Kolbe (1993) as the productive balance of instincts within a team. It is derived from a mixture of complementary, conative talents. The four striving instincts are expressed through three operating zones called prevention, response, and initiate. These zones form a spectrum of behaviors for each instinct referred to as prevent, respond, and initiate.

Operating zones indicate the perspective through which a person naturally uses a striving instinct. The four operating zones are *Fact Finder*, *Follow Thru*, *Quick Start* and *Implementor*. The reason people's actions vary despite everyone having the same striving instincts is because they have differing perspectives on each instinct (Kolbe, 1993). For example, one person will initiate plans in the patterning instinct of Follow Thru, while another may respond to structure or live within procedures, and a third person will prevent over regulating or getting boxed in.

Ideal synergy for a team is no more than twenty-five percent preventing in any mode, fifty percent responding in every mode, and no more than twenty-five percent initiating in any mode (Kolbe, 1993). An overall team synergy score for the EW indicated twenty-one percent resisting, fifty-seven percent responding and twenty-two percent initiating (see Table 7). What the synergy report for the EW student population revealed was an imbalance in the initiating response zones. They were short in three of the four modes of Fact Finding, Follow Thru, and Implementor. They also had an imbalance in the resisting modes. Twenty-eight percent resisted in Follow Thru and fourteen percent resist in Quick Start.

This is misleading because they over initiated in Quick Start with thirty-eight percent and only eleven percent initiated in Follow Thru. This meant there was a force of innovation and experimenting without the balance of thinking through ideas. Twenty-eight percent prevented in Follow

Thru. This meant there may be an overall problem of getting students to complete the projects that they have started.

When you looked at their team synergy for responding (57%) there was a discrepancy between the real and ideal (50%). What this meant was they could get stalled out as a group because there was not enough strength on the initiating side (Table 7).

My study sample indicated the same pattern (Table 8). This sample was consistently low in the same three modes of Fact Finding, Follow Thru and Implementor. The overall team synergy of initiating was twenty-seven percent. This was even more misleading because it looked like they were over the ideal in initiating. This is really due to their strength in Quick Start. The number (50%) on Quick Start indicates a skewing result. There is potential for strong-willed behavior in this action mode. Twenty-eight percent of the students resisted in Fact Finding, thirty-eight percent resisted in Follow Thru. So, there was a resistance to investigating in depth and seeking a sense of order in the EW. With fifty percent initiating in Quick Start these students naturally seek alternatives, thrive on change, and want to experiment and be involved with innovation. The challenge for anyone who works with this group of students would be to keep them on track while maintaining their interest in the task at hand. When you look at the teachers synergy report you see a similar pattern as the students but even more extreme (Figure 9). Six out of seven teachers resisted Fact Finding and no one initiated in Fact Finding except me the researcher. Four resisted Follow Thru

with two initiating and one responding. No one resisted Quick Start including myself the researcher. Two teachers resisted Implementor, three responded and two initiated. This meant these teachers could continually be making changes without collecting data to verify whether change was necessary or productive. The two teachers strong in Follow Thru could easily lock horns with the people that resisted in Follow Thru. I witnessed this taking place in staff meetings and watched the energy being drained out of people as the meeting progressed. How would these teachers that resisted in Follow Thru cope with students that were not self-regulated? How would the Eagles' Wing protect themselves against this tendency of Quick Start without overpowering the students that resisted in Quick Start? In talking with several of these students their responses were very similar. They talked about developing a plan and maintaining it regardless of how the EW changed. All of these students were highly self-regulated and it gave them greater opportunity to exercise their ability, be responsible, and take on leadership roles. The teachers confirmed this to be true as well. The teachers were also aware of that tendency and were sensitive to the students even though their Kolbe profiles were very different. This was true in how they worked with me as the researcher as well. Difficult as it was at times to get information from them it was never impossible. I just had to persist and put it into words that would trigger their interest or level of importance. I usually gave them the purpose for why I was collecting the data and then kept on them until I got it.

Table 7. Synergy Report of Eagles' Wing
 N= 125



Table 8. Synergy Report of Study Group
 Students currently in the EW N = 33

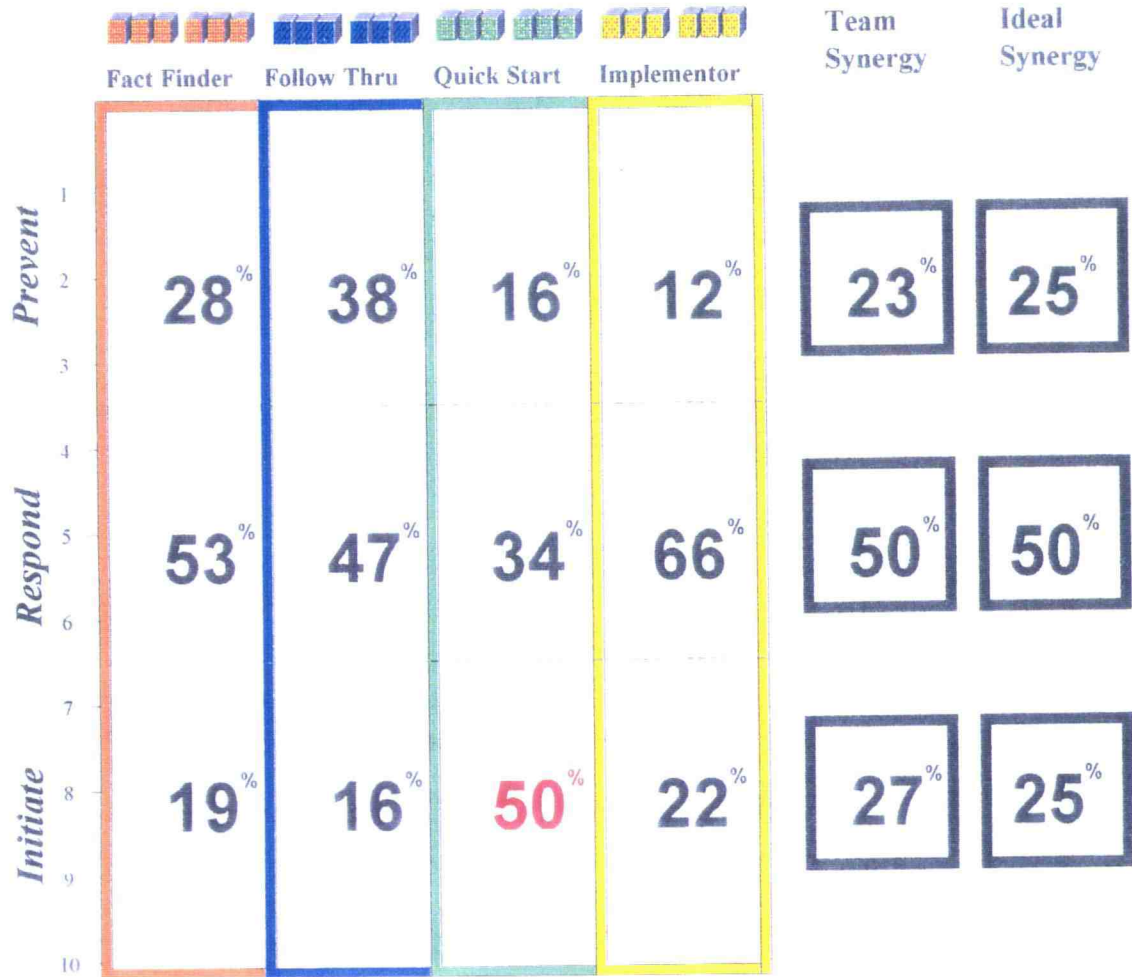


Table 9. Synergy Report of Eagles' Wing Teachers
N= 7



The elements of community as outlined by Peck (1987) become very important when dealing with differing KCIs and basic instincts for action. Learning to trust another students' or teachers' instinct and how he or she goes about accomplishing tasks even though it may be very different from you becomes crucial. According to Peck allowing students to explore other ways of knowing is an aspect of inclusion.

Understanding what it means to nurture the will can provide freedom for the teacher and the student. It defines their level of commitment to learning and demonstrates a higher commitment understanding. Peck (1987) defined commitment as one's willingness to work things out. Commitment is unity of purpose, not sameness. Focusing on conative strengths helps teachers to leave behind their notion of how they think students should be.

The Kolbe helps teachers to have realistic expectations of themselves and the students with whom they work. Peck (1987) says a true community has the ability to look at itself realistically. Teachers who know themselves and how their KCI plays out can set realistic expectations for themselves and their students.

Peck (1987) also talks about community as being a safe place; a place where anyone can be vulnerable without fear of rejection. The Kolbe is a great way to understand this because the natural instincts have no value in and of themselves. They are a way of describing how one will go about doing things. Each of us has a unique style or pattern. The Kolbe gives us a common language to understand these parameters and move beyond them.

Only through examination and discussion of those differences can teachers and students accomplish their goals in light of their differences.

The female sophomore students all used goal setting and planning as a learning strategy. The males sought out the assistance of an adult. Females used their peers more for help than adults and they also organized and transformed information in a way that made sense to them. Males utilized peers less often.

This was confirmed when looking at the KCIs. Only one female resisted in Follow Thru and she did not use organizing and transforming skills either. This student also relied on her peers for help and avoided teachers because she said she had communication problems. This meant the females used more Follow Thru which is involved with planning, translating, regulating, integrating and charting more than their male counter-parts.

The sophomores and seniors seem to have a good balance between resisting and initiating when compared to the study group as a whole. They also had a larger group of Fact Finders; both had eight students either responding or initiating and two resisting. Fact Finders evaluate and allocate both time and energy in the context of what needs to be done. One female who resisted in Fact Finding but used goal setting and planning in her learning strategies made an interesting comment:

I've definitely maintained and I have enough credits to be a junior but this year I kind of feel a lot of frustration, because I'm still motivated, but I'm sick of all the planning and everything that goes into it. So, I think I'm going to finish out this year and then go back into the regular program. (Junior, Female)

Even though this female had the learning strategy of goal setting and planning she was working against her basic instinct when we consider her KCI. She resisted in Fact Finding when the task called for evaluation. However she allocated both time and energy and responded positively in Follow Thru. This meant that as a learner she had good internal timing but did not allocate enough time for task completion. As a result, she may have found herself doing things at the last minute. She said this was typical for her during the interview process.

She initiated in Quick Start which meant she liked the creative innovative side of things but she needed to learn to balance her energy levels so as to not overload her organizing and planning strategies. She has since decided to attend a new school opening this Fall. It blends academics and arts. This is a better move since she had such strong Quick Start and is a gifted writer with many other creative and academic strengths .

Seven out of ten sophomores and eight out of eleven seniors either responded or initiated in Follow Thru. Three in both groups (i.e. five males and one female) resisted in Follow Thru and needed more structure to accomplish what they wanted to get done. One sophomore male that resisted

Follow Thru also did not use goal setting and planning as a learning strategy. He talked about the problem of procrastination and was considering going back into the traditional program where there is more structure.

Looking at Implementor, eight out of ten sophomores and ten out of twelve seniors were strong in either responding or initiating. Implementors are well grounded in the present. When analyzing these strong Quick Starts it is clear that they are also high Implementors which means they want to make their visions happen. As learners they want to demonstrate what they've learned in concrete ways.

When looking at the category of Quick Start, eight of ten sophomores and nine of twelve seniors respond or initiate. There were three females and one male who resisted in Quick Start. Quick Start is where students use their imagination to look into the future. This is the mode of a catalyst, promoter, or improviser. The males also initiated adult assistance more than females. The females tended to seek the help of peers rather than adults.

One female who initiated in Follow Thru was a highly independent learner. She was a student that stated that a program weakness was not enough personal time with teachers, yet she did not naturally seek out teachers nor did feel she needed the help of a teacher. A teacher would need to approach this student very indirectly, watching for clues of when to intervene. This student perceived a weakness of teacher involvement yet she is not one to involve teachers herself. This same student said she liked to work and research stuff on the weekends.

When I looked at the juniors, I got a much different picture. Unlike the sophomores and seniors, this group had no one initiating in Fact Finding and only one female initiated in Follow Thru. They were also heavy in Quick Start and strong on implementing. This produces a completely different pattern.

Five students resisted in Fact Finding and were missing goal setting and planning, along with organizing and transforming. These same five students along with two others resisted in Follow Thru. One student who resisted in Follow Thru and responded in Fact Finding did not use goal setting and planning as a learning strategy. This meant he was working against his grain because as a Fact Finder he investigated and prioritized and prevented stress by strategizing. But, he didn't have goal setting and planning as learning strategies. This was reflected in his comment about the weakness of the program.

Well for me, I'm not real good at studying my own agenda so I have to have someone tell me what to do. So I've got five different friends telling me what to do or you need to be doing this or that. (Junior, Male)

This was his comment concerning the strength of the EW:

.... you can study any subject you want, because in the regular school you can only go up through physics, and I want to go beyond that. (Junior, Male)

This student has a vision for what he wants to learn but may lack the specific learning strategies to bring it about. His strategy was leaning into his peer group; this is not uncommon for adolescents. Interpersonal relationships are one of the most important aspects of adolescent development (Walker and de Vries Trevethan 1987; Yussen, 1977).

Another student who responded in Fact Finding and Follow Thru and resisted in Quick Start showed a similar pattern. She was a student who did not use the learning strategies of goal setting and planning or transforming and organizing. The difficulty she experienced from time to time was due to strain, because of her unrealistic expectations of how things get done. She had the motivation but lacked the skills. Her comments and her other learning strategies tell us that she relied on relationships with her peers and teachers.

This next comment was from another student who resisted in Fact Finding and Follow Thru and did not use the learning strategies of goal setting and planning or organizing and transforming.

There is no system to tell what kind of credit ahead of time so a project may take one month and you get very little credit.
(Junior, Female)

This is simply not true. There is a step-by-step protocol for project development and a way of projecting their potential credits. There is a display case that has all the paper work that is needed to prepare and process what students are going to do. It doesn't mean that this student is lying but

she does resist in Fact Finding. It wouldn't matter how well the system is articulated because she is not motivated to investigate nor to Follow Thru with information. So, how the procedures of the program are presented becomes very important for students like her. She is a Quick Start Implementor and she uses the learning strategies of seeking out peers and teachers. The vehicle for presenting information to her must somehow include her and her peers.

In the meantime, she must learn to take responsibility for herself regardless of how the information is presented. So, it becomes an issue of helping her develop the maturity to work with her strengths as identified by the Kolbe and to show her how to manage herself in other areas of resistance.

This next student resisted in Fact Finding and Follow Thru but used the learning strategies of goal setting and planning, organizing and transforming, along with seeking out the help of adults. This learner had the skills to work in areas where he lacked the basic instincts. He initiated in Quick Start and responded in implementor, therefore he brought together his ideas and projects. He utilized the learning strategies of goal setting and planning as well as organizing and transforming. When he needed the help of an adult, he sought them out. This student was one of the first students I interviewed but was one of the last students to give me the survey data. I could see his lack of motivation to Follow Thru but his willingness to achieve a goal. He was a delightful young man to work with and had good interpersonal skills.

Here is a quote from a student who is a Fact Finder, Quick Start, and Implementor. He resisted in Follow Thru. He is a learner that is on and then off depending on personal relationship issues.

I don't learn well if the teacher and I don't get along. I wouldn't learn anything at all. I just totally try to piss off the teacher. And if I do get along , I usually do very well in the class. (Junior, Male)

He does not use the learning strategy of goal setting and planning, so he really needs that relationship with the teacher to help facilitate his learning. He did use the learning strategies of organizing and transforming but he does seek out his peers and other adults. His strong Quick Start may cause teachers to be put off by his seeming high ability and ideas but lack of productivity if their relationship is not good. The student is every teacher's nightmare or dream come true depending on ones perspective and interpersonal relationship.

Emotional EQ is important for both student and teacher. If the emotional EQ of a teacher is weak they may be offended by this student and his way of behaving when in reality it is a coping mechanism to maintain his self-esteem. Teachers must keep close tabs on their feelings and deal carefully with any issue that comes up with this type of student. It is not an issue of walking on egg shells but one of integrity and caring because this student has wonderful ideas but lacks goal setting and planning in the learning strategies and resists in Follow Thru on ideas. It is through relationships that his

dreams become reality. And it will be very important for him to learn to take responsibility where he tends to not follow through with things.

Another student talked about the importance of relationships in learning, but he focused on communication between students and teachers:

A drawback I see in the EW is lack of communication between students/students and teachers/students. So just learning how to communicate more effectively in general. (Junior, Male)

This student was highly self-regulated, used all four learning strategies, and was an accommodator on the Kolbe. This meant as a learner he used all four basic instincts as he felt necessary. These are the students that get things done before you even ask. They fill in when there is a shortage in a particular area when working in teams. He was also a student that was identified as special education student with a current individual educational plan (I.E.P.). When I asked how he got involved with the EW he told me:

...special ed did not offer me opportunities where I could learn what I wanted to learn. I felt like I was going nowhere. So, I came into the wing and was able to use my own style of learning and prove myself as a student. Since coming into the wing I have been able to take geometry, algebra and now, I'm taking horticulture, photography, and work as a teacher assistant. (Junior, Male)

He was president of Future Farmers of America and had his long range goals already planned out as a junior. He planned to do his undergraduate work in agriculture at Oregon State and then a Masters at Washington State University in genetics as it relates to milk production in cows. This student

translated concepts into agricultural terms when he didn't understand them and then put them on flashcards and drilled himself. He would take these cards with him out to the fields when he was working with the cows on his parent's farm. His learning strategies and KCI scores showed very clearly how he coped with his learning disability. Inclusion has been the best thing that has ever happened for this student. He had wonderful opportunities to demonstrate his learning in a context that he related to very well. He was an example of how important it is to allow learning and teaching to be contextually based.

What stood out in these eleven juniors was that six resisted in Follow Thru, four responded, and one initiated. How to approach projects and assignments becomes a difficult task in a system where people are rewarded for what they get done when you see patterns like this. These are students that may start projects but not have all the details before they start, then they discover they can't complete them or lack the capacity to Follow Thru when they get stuck. They need teachers who can support them in their weaknesses and affirm them in their strengths.

As Quick Starts they are great idea people. Quick Start allows the learner to predict and deal with events ahead of time. Project closure may come through the capacity to see ahead and to Implement. But if they don't have the skill to do that then they need to learn it. Ten of the eleven students responded or initiated in Implementor. This kept the learners grounded in the present. Brainstorming and decision making techniques could help them

learn to project better and evaluate risks. As a teacher, it is not wise to make them wait until all the facts are in or the students may get stalled out and experience inertia.

Learning strategies matched well with the KCI's when viewing the students learning and productivity. Students who lacked the basic instincts for Fact Finding and Follow Thru but had the learning strategies of goal setting and planning as well as organizing and transforming were able to compensate. They had skill to act even though they lacked the will. Other students that had the basic instincts but lacked the learning strategies also had the ability to compensate. These students had the will but were developing the skill. The students that had the learning strategies for self-regulation and the basic instincts of accommodating showed the ability to overcome learning difficulties.

Students that seemed to be most at risk were those students who lacked the basic instincts and did not have the learning strategies that other self-regulated learners have. These students lacked both skill and will. Schunk (1989) stated, "Self-regulation does not automatically develop as people become older, nor is it passively acquired from the environment" (p.99). Interestingly enough, many of the instructional strategies that were recommended for facilitating the development and growth of self-regulation

skills were present in the Eagles' Wing—active learning in an authentic context, collaborative effort, and reflective thinking (Schunk, 1989).

The Eagles' Wing was small enough for everyone to know one another. One teacher stated it this way:

One of the most wonderful parts about the Eagles' Wing has been the ability to relate to kids one-on-one for a block of time.

Teachers got to know students and students got to know each other and their teachers in ways they could not in the school at large. The research of Wynne and Walberg (1995) suggests that smaller schools fair better. Students in smaller school have fewer, but more intense and enduring relationships with adults in their time of schooling, making for fewer problems (Meier, 1995; Wynne & Walber, 1995). John Goodlad (1984) concluded that the smaller schools were better at solving their problems, more intellectually oriented, and had more caring teachers and greater parent and student satisfaction. "It is not impossible to have a good large school, it is simply more difficult (Goodlad, 1984, p. 309)."

As teachers got to know students and students experienced caring wonderful things happened. One parent expressed it this way:

The "Wing" seems to have touched on the kind of climate that will let each talent flourish. I know that the faculty and students are eager to help find the best way to make education a partnership.

In the Eagles' Wing as teachers honored and respected the students and each other they created a spirit that invited learning. It gave both teachers and the students courage to open themselves up to learning.

DEVELOPING A COMMUNITY OF LEARNERS

Real learning gets to the heart of what it means to be human. Through learning we recreate ourselves. Through learning we become able to do something we were never able to do. Through learning we perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life.

Senge, 1990 (p.14)

Community in its basic definition is a group of people living in the same locality and under the same government. Communities can be defined by geography or context. Community is something more than the sum of its parts or its individual members (Peck, 1987). It can involve a group of people and a place but it is a phenomenon that can exist beyond location and place. Wendell Berry defines community as a group of people identified by an understanding of mutuality of interests but who live and act by common virtues of trust, goodwill, forbearance, self-restraint, compassion, and forgiveness (Berry, 1992). Therefore, I must know where I am, what the nature of this place permits me to do, and who and what are here with me.

The teachers, administrators, students and parents of Chesapeake had come together to develop an educational program that would be qualitatively different from a traditional program. Chesapeake Bay is a public school, meaning it belongs to the citizens of Chesapeake. This group of people were developing an educational program that was based on community.

Community life by definition is a life of cooperation and responsibility (Berry,

1992). Each person has a voice but no one voice to the exclusion of another. The students share the governance of the community and learn responsibility and accountability to one another. A community, unlike a public, has to do with belonging; it is a group of people who belong to one another and to their place (Berry, 1992). I can no longer just consider my point of view but I must be willing to consider how my point of view impacts the community at large and others on a more personal level.

Scott Peck talks about eight elements of true community in his book *The Different Drum* (1987). They are inclusivity, commitment, consensus, realistic awareness, contemplation, a safe place, a laboratory for disarmament, a group that can fight gracefully, a group of all leaders, and spirit.

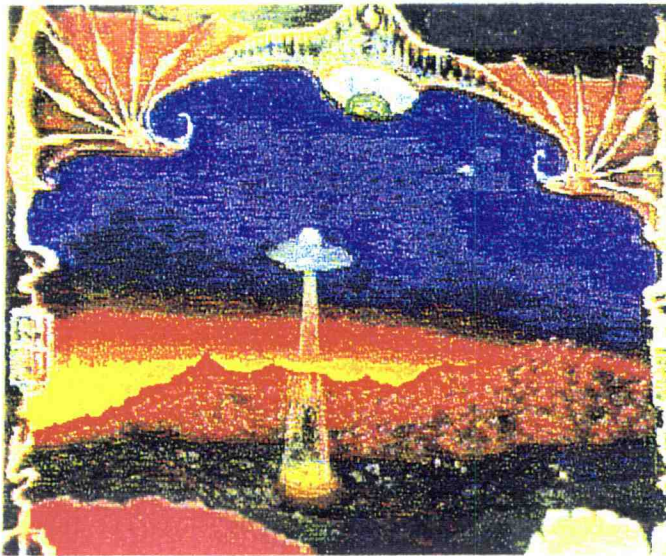
The twentieth century dawned on a world segregated into social classes defined in terms of money, power, and status (Herrnstein and Murray, 1995). Status breaks down further into race, gender, and social class. Excluding people based on these elements has been a way of life in many aspects of society and schooling is no exception. Money, power and status dictate where you go to school and with whom you attend.

One of the basic elements of community building is to value diversity. Each person brings an element of diversity because of the nature of who they are regardless of gender, race or acculturation. Creativity will flow out of that diversity when we honor one another with all of our differences. I saw a beautiful example of this when a student in the wing presented a project proposal that involved painting a mural on a wall in the Eagles' Wing. The

mural came about as a result of a project on UFOs. The young woman presented her idea to the faculty of EW and they said "Go for it."

The mural depicts some of the commonalities about UFO such as the night sightings in desert areas. So the setting was the desert at night. It also contained other symbolic meanings associated with the UFO culture.

Figure 6. Student Mural of UFO Project



This student project on UFOs could have been highly controversial. Teachers did not allow their personal judgement of whether UFOs existed or not stop the student from researching the topic and developing a mural to identify elements of what she learned.

Inclusiveness is not an absolute but must be balanced by purpose. This is a real battle for the EW because they are not an alternative school program, it is a way of educating students for the twenty-first century. Funding is based

on numbers of students. So faculty must work at recruitment and promoting themselves within the criteria set by the district office.

Another problem involves the traditional school-based counselors. They do not have a full understanding of the program and they refer students to EW who have truancy or credit problems. The teachers, caught in the middle of wanting to help students and build their numbers sometimes compromise their standards for acceptance into the program to accommodate these students. This in turn impacts the learning environment. Students with these kinds of problems also affect the reputation of the program. The struggle teachers have is balancing the issue of student numbers with the enrollment policy. A benefit of the program is that students can develop a desire to learn and make up for credit problems because of the diverse methods of teaching within this program.

Commitment—the willingness to coexist—is crucial (Peck, 1987). In a country where rugged individualism exists and broken families are the norm, commitment is difficult. It means seeing past our differences and having a willingness to work things out no matter how difficult. In the EW it is defined by keeping your agreements. Doing what you say you're going to do when you say you're going to do it. Scheduling meetings can be a problem because of pullouts for students and teachers which in turn, affects project timelines and presentations. For example, a student may develop a project that integrates Science and English but because those two teachers have different schedules the student is forced to present the project twice adding

time to process of completion. If students do a group project and integrate two or more subjects it becomes that much more convoluted.

Decisions in genuine community are arrived through consensus, in a process that is not unlike a community of jurors, for whom concensual decision making is mandated (Peck, 1987). Consensus is not conformity but it is unity of purpose. It cannot be a formula because it is different for every group based on the context and content each person brings to the table. Peck says the process itself is an adventure and there is something inherently mystical and magic about it, but it works. In the EW they develop activities that teach consensus through project adventure. They also use a democratic process to teach students the way in which our government works through program maintenance and governance.

Consensus is not rule by the majority and must not be confused in this way. Consensus goes beyond the majority and invites further dialogue so the voice of the minority may be heard. Yet, it does not imply throwing out democracy but knowing when to transcend individual differences for the sake of the whole.

A true community is able to look at itself and others realistically. Realism is a building block of community of the EW. You see it in their guiding principles of integrity— scam nothing nor anyone—especially yourself. Realism recognizes the diversity that each person brings to the group and appreciates the differences. There is a natural humility that comes when we appreciate one another for who we are. I am able to know when I

need help from another and receive it. One graduate student expressed coming into reality with herself in these terms: "Before I came into the EW I had a kind of arrogance— that if you asked for help someone might think you don't know." This kind of perfectionism is typical behavior for gifted students. It becomes very important for teachers to model the ability to be learners themselves to let students see that not knowing is part of learning.

The English teacher demonstrated the principle of being willing to deal with the reality that the students bring to school when she developed a class entitled "Swearing, Creativity and Imagination." The teacher had the students write a history of their own swearing after a period of discussion. She presented a framework of questions to help them process what she was asking. The questions were: What did I learn to say? Who taught me? How aware was I to what I was saying? And finally, is or has swearing been effective for me? The teacher wrote along with the students. She represents another generation and was freely able to express a genuineness in trying to understand their world. The students obviously trusted her and interacted freely with her. She keenly wove grammar, language development and personal histories into the discussion. One student said this is the first time I've ever understood nouns, verbs, adjectives, subject and predicate. Samples from this assignment included comments like: "Swearing is a code language that has a special meaning only to those who use it." "I didn't realize how many swear words were against women." Another student paused and commented to me as he was leaving, "Swearing sure is stupid, I wonder if

talking about it will help me stop doing it, what do you think?" I saw a genuine honesty that was special. The teacher had so delicately brought their lives and English together in such a way that they couldn't help reflecting one upon the other. The students felt safe as they were considering their own views of reality. For me, as the researcher, I saw a blending of the art and craft of teaching. I left with excitement and feeling high.

Peck states in *The Different Drum*, that a sure rule of humility is to know yourself (1987). I have a plaque on my wall at home that says, a friend is someone who knows all about you and likes you anyway. Sometimes it is difficult to face ourselves because it is painful. We all want people to think the best. But what I bring to the community is based on my reality and that cannot change until I am able to perceive it. When I can begin to see my own reality then I can view others without feeling threat a to my own. Therefore, I must be willing to suspend judgment to understand another's reality. This is what the English teacher had done in order to understand the students' world.

Suspending judgment to understand another's reality doesn't mean we cannot question. A healthy skepticism is important for our growth mentally and affectively. It also reveals the process of assimilation and accommodation as identified by Piaget (1954). Skepticism prevents a group from falling into 'group think' or following charismatic leaders regardless of what they represent. It gives the student and the teacher a chance to consider each others view and make adjustments accordingly.

Deborah Meier spoke about skepticism at a recent conference for the Association for Supervision and Curriculum Development in New Orleans (1996). She stated that, educators haven't "dug deeply" enough into the question of what qualities are needed by good citizens in a democratic society. She proposed several essential qualities that schools should nurture. Skepticism was the first element:

In matters of civic concern, absolute certainty is not possible. Therefore, informed skepticism among citizens is vital. But rather than helping students maintain their skeptical mindset, most schools "close it up" (1996).

If this is true, schools are preventing students from growing and yet expecting them to perform. I would consider this intellectual dissonance.

The other essential needs of a democratic society Meier spoke about were empathy, hope, and respect. Good citizens need to be able to put themselves in another's shoes. The quality of empathy is cognitive as well as affective. To be empathetic, one needs to know about the other, which can be enormously complex (Meier, 1996). For a teacher, it means understanding the context and content students bring with them to school. Understanding context is important to understand what one is saying. I witnessed a conversation between a teacher and a student that was a perfect example of the teacher using the context of the student to help her process decision making. The student was getting involved with an older group of males outside of school. She really liked one male in particular and felt he was nice but his friends were questionable. In fact, she was sure they were using drugs.

The health education teacher talked with ease and identified with her feelings, yet helped her work through a couple of potential scenarios if she continued to pursue the relationship. They talked about the consequences of these different situations and then about the student's own goals. The teacher was very open with the student and suspended her judgment to help the student think through her relationship. After the student left I talked with the teacher. She told me she knew this girl well enough that if she told her to stay away from the older boys that she would do just the opposite and get involved even deeper. So, she had to carefully help the student evaluate the situation and reach her own conclusions. Again, it was a powerful demonstration of the artistry and craft of teaching.

Another element of community is the willingness to contemplate, to consider yourself and the community in itself. The community-building process requires self-examination from the beginning. As members become thoughtful about themselves they also learn to become increasingly thoughtful about the group (Peck, 1987). The teachers in the EW showed this through their desire to be reflective professionals. I watched as one teacher demonstrated what Schön (1988) calls action-present reflection—a period of time within the context where there is still chance to make a difference. A student was presenting and she would jot a word or a symbol down to remember to pick up on an idea or get at what was behind his statement. The reflect-in-action served to reshape what was going on.

It was also shown in how the health education teacher interacted with the student in the case with the older boy friend. This teacher had been working with this girl for some time and had noticed certain patterns of behavior that she then took into account in her talk regarding the boyfriend. Hannah Arendt (1971) calls this a "stop and think" because reflection had been the result of thinking back on different situations. The health education teacher then used that information to guide her discussion with the young girl.

Peck (1987) states, the essential goal of contemplation is increased awareness of the world outside oneself, the world inside oneself, and the relationship between the two. Plato put it most bluntly: "The life which is unexamined is not worth living (Mackail, 1906 p.38)." As educators, the teachers of the EW have asked the hard question of what is the relevance of what they teach and do. The science teacher expressed it this way,

How essential is it for a student graduating from high school today to understand the solar system in its entirety in order to graduate? Yet that is one of the goals listed as essential learnings for high school science. Why- what will that knowledge do for him or her? And how many adults today can explain the solar system and all its celestial bodies. As opposed to learning to think like a scientist. I question the very basic elements of the essential learnings and I am a passionate scientist. I believe it is important for students to be actively using the scientific method but to identify specific content seems irrelevant to me at the rate knowledge is moving today. (Science Teacher, Male)

What would happen if all educators were more contemplative of their profession and what they taught students. Would it cause a

revolution in our educational system? Would we have the drop out rates that we have today? How about the student population that is considered at risk. Would they no longer be at risk? What would it do to our cities if our schools became learning communities? We can only speculate by looking at schools willing to step out of the norm and do something different with the concept of education. That's part of what this paper is all about.

Peck (1987) also talked about communities being a safe place. This develops over time because there has to be an element of trust. I can only trust you as I know you. You can only trust me to the degree that you know me. I often heard one of the teachers say when talking with a student, "I trust your intentions but I don't always trust your judgment." I saw this as a way of accepting the student and yet challenging his or her actions. If I know it is a safe place for me as a person, then I am more willing to see myself for who I am with all my strengths and weaknesses. With the issue of safety established, then I am more willing to self-examine.

Community is a spirit—but not in the way that it is familiar. It happens when members take pleasure—even delight—in themselves collectively (Peck, 1987). The true spirit of community is peace and love. It does not mean it is without struggle but the struggle is not destructive. As I have watched the students and teachers interact in the wing over the last year, it has not been without problems. But there was a sense of genuine caring for one another that would carry them through the difficulties with

which they were dealing. I saw this time and time again with the teachers as they dealt with issues that were important to them even when they did not see eye to eye. I saw each and every element of community as Scott Peck defined it in *The Different Drum: Community Making and Peace* (1987) in the Eagles' Wing.

IMPLICATIONS

This study sought to understand how students managed their learning in a student-centered approach to teaching and how the roles of the teachers changed. In-depth interviews with students and teachers, classroom observations, video taping and assessment scores provided by the school constituted the data for the study.

Students were randomly selected from the current students enrolled in the Eagles' Wing and an available sample of graduates were used for the graduate population. In order to participate, the students had to be in the program at least one year. Students came from varied backgrounds and came into the wing for various reasons. Some had come in as a result of friends, others as a result of recruiting and still others as a result of a counselor. They all showed a certain enthusiasm for the opportunity to be in charge of their learning, but handling that freedom was a challenge for even the most self-regulated learners. As a result of this study, I began to see the answer to my questions.

1. Empowerment of Teachers and Students

Administrators who want to empower educators at all levels in their districts must open the system to the diversity represented in their districts. Sometimes understanding what dis-empowers can help us better understand empowerment. Empowerment is a reciprocal process. It takes the releasing

of power from one party to picking up power from another party. We become accustomed to the status quo and change is painful. Painful cognitively and emotionally. Good and bad habits are hard to break. Some veteran teachers resist reform because they don't want to change roles or assume added responsibilities (Spilman, 1995). Some students felt they maintained certain benefits by their learned helplessness therefore they resisted learning (Kohl, 1994).

Teachers and students in the Eagles' Wing had a commonality among them that might suggest their experiences may have been similar. Each teacher and student had a significant number of years in a traditional system of schooling. Each had grown accustomed to the structure that the system provided.

Now both teachers and students were in charge of how they structured their learning, including the courses and the content. Jobs that had traditionally been assigned to teachers were now assigned to students. Jobs that had traditionally been administrative support were now delegated to teachers. Teachers and students had increased responsibility and accountability. Some accountability and responsibility was known up front; others they learned of in round about ways.

Mclaughlin and Talbert (1993) write that when teachers change, the system must also change in order to prevent efficacy frustration. In the case of the Eagles' Wing and Chesapeake Bay the system had allowed change but had difficulty supporting the EW in the process. The district had established a

pattern of interest in innovation and reform but support for such programs typically lasted about three years before another idea took precedence. Eagles' Wing was starting its fourth year when the district started a new school integrating the arts and academics.

A study conducted by Deal and Nutt (1980) looked at educational change that reflected a top-down approach. It had fatal flaws because administrators had not considered how the changes would affect teachers. In most cases the administrators never anticipated the political battles that ensued because their proposals called for programs that were progressive, effective, and good for everyone. This was not all together untrue for the Chesapeake Bay High School. There were a number of battles for the Eagles' Wing. Some were at the district level. People discussed different perspectives of what quality education looked like. Other faculty responses ranged from neutral to hostile with this move away from traditional to progressive. Guidance counselors perceptions about Eagles' Wing had the most direct influence on the wing because they were involved with student placement. Other issues involved sustained funding after grant monies were withdrawn. Eagles' Wing faculty were dealing with issues of organization from the perspective of the district, the building, the program, and the individual student. Often caught in the middle they were teachers of integrity that had a history with their fellow faculty yet they were stepping out of the norm.

Bolman and Deal (1989) point out that a political view of change means (1) organizations change all the time and (2) they never change. There is a

constant jockeying for position and power and all stakeholders must be prepared to deal with the conflict. The concept of opening up the system to broader participation is discussed yet, in most cases, districts are only dabbling in "dispensed participation." Leaders decide when others will—and will not—participate in making decisions. This practice is actually disempowering (Willis, 1994, p.3). Administrators who follow this practice "think, with very good conscience, that they have opened the system" (Willis, 1994, p.3). Yet those intimately involved in the project or reform process see it very differently. Even though the teachers had a certain level of control, they never did have complete control. And so it went for students.

2. Taking Charge of One's Own Learning

Trying to understand what it means to take charge of learning is a complex question. The number of variables that enter into the educational setting is enormous. Not only are there the teachers with their complexity, but there are the students and the context they bring with them. Learners must determine what motivates them to do what they can do and must have the skill and will to act. Contributing factors include the emotional EQ of both student and teacher.

Other concerns deal with issues of pedagogy that in turn affects the classroom climate and the school at large. A constructivist pedagogy starts with the learner and how they construct knowledge. It allows the student to define what is meaningful and pursue learning that is generated by the

learner. In order for students to be more responsible for their learning they need resources, opportunities, and the ability to take advantage of those resources and opportunities. Nuthall and Alton-Lee (1990) break these down in this way:

1. The student must have resources to learn. These might include such personal, social, and technical resources as sufficient prior knowledge, support from home, materials and equipment, and relevant experiences.
2. The student must have opportunities to learn. This means sufficient time spent with demonstrations, discussions, and projects; opportunities to clarify concepts; and challenges that will displace misconceptions.
3. The student must take advantage of these resources and opportunities to learn. The student must pay attention, talk with teachers and other students, and express understanding of key concepts orally or in writing.
(p. 555)

In order to motivate and engage students, teachers must create classroom environments in which every student comes to believe they count, that educators care, and that they can succeed (Andrade, & Hakim, 1995; Bandura, 1993; Dodd, 1995; Glasser, 1990; and Tredway, 1995). What the Eagles' Wing students told us was:

- it was important to know themselves as learners,
- it was okay to fail as long as they learned from it,

- that practice in demonstrating their knowledge was important, and
- knowing that the teachers cared and knew them as learners were keys to their success.

Maybe these are part of what it took for them to become more self-regulated learners. Like one student shared:

....really I got in (EW) so I could skip and stuff like that cause the freedom. Then it's like I started getting involved in all the groups, you know, and so, I don't know, I just like did garbage. (Senior, Male)

Garbage refers to being involved and this particular student is a real leader in the program and among his peers. Several other students talked about gaining leadership skills e.g. *opportunity*.

I've learned a lot of leadership skills, I've done a lot of leadership stuff too. And I really like it but I never saw myself as a leader before, I guess because I never really got much of chance before. (Senior, Female)

I can't work on projects by myself because I'm not very motivated when I'm doing it by myself. But when I'm with friends I always take charge and give them jobs to do but when I'm up front I'm the silent one. I'm kind of a perfectionist and the Koble showed I'm a detail person (Fact Finder, Follow Thru) but I'm not very strong on Quick Start and that's where Shawn and John are strong but they tend to be procrastinators so I learned that I could get their ideas, gather the facts and help with the project and they put the presentation together. So that was real helpful. (Sophomore, Female)

Students found out more about themselves and working in teams which helped them understand their learning. Further more self-regulation

is not a skill that is learned over night. It is part of cognitive development and emotional maturity. As students begin to know themselves they can learn what causes them to downshift in their thinking and what causes them to experience emotional hijacking. Corno (1992) says that motivation denotes commitment, and volition denotes follow-through. This previous student had commitment and follow-through but lacked the ability to generate ideas. As she worked with fellow students who were idea people I saw her ability in that area growing. It appears the Kolbe Conative Index can be an instrument that will help understand this process more clearly. But more research is needed with this instrument in the educational arena.

3. Assessing the Journey

What a child can do in cooperation today he can do alone tomorrow (Vygotsky, 1986, p. 104). The development of self-regulation involves a transition from regulation evidenced by responses to commands of others to self-regulation for an intended purpose or goal. It is manifested in the toddlers stage as a child begins to say "No" and develops autonomy.

Karmiloff-Smith and Inhelders' (1974) work of theories - in- action demonstrated the importance of children trying out different theories for development. Negative responses were just as important as positive ones in that developmental process. Negative responses remain action-responses until a child's theory is generalized and consolidated. These negative-responses are the initial reflections of what it means to assimilate and

accommodate. It is through this process that children develop meaning for the world and learn the rudimentary elements of reflection. The child's ability to respond in this way grows and matures with age and the quality of his or her relationships with others.

The Eagles' Wing allowed students to overcome fears of different sorts whether they were relationship issues, knowledge, or coping with a disability. As students developed relationships with the teachers trust increased. Out of these relationships they began to learn to share their thinking with others gaining greater ability to articulate. Some of the graduates talked about gaining greater communication skills as a result of the wing and the relationships with teachers and other students. One student came into the wing as a junior and graduated this year. He had originally come into the wing so he could graduate early but he discovered that he was a procrastinator, so he ended up graduating on time with the rest of his class.

I used to be a real procrastinator and I still work at kind of a slow pace but I do not procrastinate like I did when I first came into the wing. I don't have busy work so when I sit down to work it isn't mindless work. In the regular program if you did your work all they would do is give you more. And work is forced on you so you do it. That's not all bad..... (Senior, Male)

What he had come to realize was unless work was being forced upon him he didn't necessarily do it. Now in the wing he wasn't being forced to do work and he had to learn to take initiative. It took him that junior year to learn

how to regulate himself when he had planned to actually graduate at the end of his junior year.

I also saw teachers interacting with students asking questions that required them to reflect on the past or on the possibilities in the future. This happened in a variety of ways such as, seminar settings like “Swearing, Creativity, and Imagination,” the Math-Science Hub, or project adventure. For example, in the class on “Swearing, Creativity, and Imagination” the teacher asked the students to share their history of swearing, identify when they used it, and who taught them? She then had them rewrite their favorite swearing sentence in another way, without using swear words. The questions she presented throughout the lesson gave students the opportunity to reflect and respond.

The Eagles’ Wing also used a framework of questions for students to articulate what they had learned. Using these five habits of the mind (Meier, 1995) may helped students develop the meanings they need to make learning come alive and the ability to articulate that journey. The questions are;

- how do I know what I know? (one of evidence)
- who's speaking? (perspective)
- what causes what? (common patterns and connections)
- how might things have been different? (suppositions)
- who cares? (the question of relevance)

As educators realize the importance of the journey, then maybe teachers and students would become more reflective about what they do and how they do it. As I consider what I learned from the students and the teachers the journey may be as important as the destination.

4. How Teachers Facilitate Growth

Classrooms that are more student-centered give students an active role in development, decision making, and what goes on in the learning environment. For instance, when this opportunity for research came about one of the teachers facilitated a group of students to discuss this issue. She asked students what they thought of the idea and where they would like to go with it. They thought it was an exciting prospect and began to generate questions that they were interested in finding out. I then began a refinement process each time processing my ideas with the students. Students were apart of the process from the beginning. The teachers had given the students the opportunity to contribute and they were learning to have voice in what went on in their schooling. One student expressed it this way, "the wing taught me to stand up for myself. I'm a quiet type of person and I have learned to say specifically what I want and ask for a chance."

As students developed trust in one another and the teachers they began to seek out help. Sharing their ideas and projects with others allowed them opportunity for improvement. Also the grading policy invited continuous improvement with A/B work accepted only. Students learned to take pride

in their work. One student expressed it this way: "I want people to think about me- about who I am from what I did not by who I hung around with."

Students learned that it was okay to fail and that failure could be as valuable as success for learning. Teachers emphasized intrinsic motivation instead of extrinsic. This allowed students to do well for themselves and not for others only. One student stated it this way, "I would work to please the teacher and if I couldn't I would quit." He had allowed external circumstance determine whether he would or would work. All this changed as a result of being in the wing.

Other students talked about the teachers giving them a sense of pride and joy in success. I witnessed this as I watched the political science teacher work with students on their speeches. The students would practice them and he and other students would critique them. It was pure joy when the student knew that they had made the mark and everyone else knew too, it was a kind of mutual pleasure. It may have taken days or weeks for this to be accomplished but what was important was that it was accomplished.

Conclusions

The implications for further practice are threefold. The first implication relates to the reform process. Reform is not easy whether it is top down or bottom up. But what has become very is the importance of creating an environment where dialogue can take place at all levels.

The second implication for practice pertains to the issue of support and hope. In a time when money seem to be diminishing, districts must find alternative ways to show their support for teachers and programs that make a difference. Hope is what creates vision and we need vision in every aspect of life to solve the problems that we are facing today. Creativity is needed today more than ever. Educators and students must believe that education does make a difference.

The third implication pertains to the practice of how we train teachers. If teachers really need to understand their students our current educational programs must adequately teach educational and developmental psychology. We are still expecting novice teachers to pick up most of their knowledge and skill on the job. The teachers in this study were at both ends of the spectrum in terms of length of time teaching. Yet they still felt ill prepared to deal with many of the personal issues students have.

In the scientific community, a good research project generates as many questions as it answers (Suzuki, personal communication in May: 1996). That being the case, the research project reported in this dissertation was a good study. It answered the question it set out to answer: How do high school students self-regulate in a student-centered and project-based curriculum? The students that managed themselves well had the same skills as other high-achieving students that are self-regulated. It appears to be more difficult for students to self-regulate in a program that requires the student to be the initiator. A study where there could be a comparative analysis of high school

students in a traditional program with students in a student-centered program could look at this issue more deeply. Also a teacher's role in the management of a student-centered and project-based curriculum tends to be more facilitator than direct controller. What are the skills needed to be a teacher in these two different settings are they different, if so, how?

The instruments that were used in this study drew out a wealth of information. The learning strategies developed by Barry Zimmerman supported the Kolbe Conative Index and both contributed to a stronger understanding of issues surrounding student productivity and motivation. I believe this study has opened the door for an initial understanding of what is involved when designing a program which requires students to take charge of their own learning. Teaching adults and students to become independent lifelong learners is not an easy task.

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APPENDICES

Appendix A

APPENDIX A

Interview Questions by Zimmerman

Question 1 (Classroom Learning). Assume a teacher is discussing a topic with your class, such as the history of the civil rights movement. He /She says that you will be tested on the topic. Do you have any particular method to help you learn and remember what is discussed?

Question 2 (Writing Assignment). Teachers often assign the writing of a short paper outside of class on a topic such as your family's history. Teachers will often use your score on this paper as part of your grade. In such cases, do you have a particular method to help you plan and write your paper?

Question 3 (Math Assignment). Teachers usually emphasize that mathematics requires great accuracy. Furthermore, students must complete much math work outside of class, without help from a teacher. Is there any particular method you use for completing your math assignments accurately?

Question 4 (Test-Taking). Some teachers give tests at the end of marking periods, and these tests greatly determine report card grades. Do you have a particular method for preparing for this type of test in English or History?

Question 5 (Motivation). Many times students have problems completing projects because there are other, more interesting things they would like to do, such as watching TV., daydreaming or talking to friends. Do you have any particular method for motivating yourself to complete your work under these circumstances?

Question 6 (Environmental Structuring). Outside the classroom, some students find it easier if they select or set up the place where they study. Do you have any particular method for selecting or setting up the place where you study outside of class?

Question 7 (Self-Evaluation). With projects that involve writing reports for science or a paper in literature, do you have a particular method for checking your work after it's completed?

Question 8 (Self-Evaluation). When developing a project that involves English, Science, Math or History, do you have a particular method for making sure these areas are clearly identified before turning in the project?

Appendix B

APPENDIX B

Categories of Strategies

- (1) Self-Evaluation
- (2) Organizing and Transforming
- (3) Goal-setting and Planning
- (4) Seeking information
- (5) Keeping Records and Monitoring
- (6) Environmental Structuring
- (7) Self-consequences
- (8) Rehearsing and Memorizing
- (9) Seeking Peer Assistance
- (10) Seeking Teacher Assistance
- (11) Seeking Adult Assistance
- (12) Reviewing Tests
- (13) Reviewing Notes
- (14) Reviewing Texts
- (15) Other

APPENDIX B
Definitions and Examples of Self-Regulated Learning
Strategies

Category Strategies (* Code category _____)

1. Self-evaluation: Statements indicating student-initiated evaluations of the quality of completed work e.g., "I check over my work to make sure I did it right."
2. Organizing and transforming: Statements indicating student-initiated covert or overt arrangement of instructional materials to improve learning e.g., "I make an outline before I write my paper."
3. Goal-setting and planning: Statements indicating student setting of educational goals or subgoals and planning for sequencing, timing, and completing activities related to those goals, e.g., " First, I start studying two weeks before exams, and I pace myself."
4. Seeking information: Statements indicating student-initiated efforts to secure further task information from nonsocial sources when undertaking an assignment e.g., "Before beginning to write the paper, I go to the library to get as much information as possible concerning the topic."
5. Keeping records and monitoring: Statements indicating student-initiated efforts to record events or results e.g., "I took notes of the class discussion." or " I kept a list of the words I got wrong."
6. Environmental structuring: Statements indicating student-initiated efforts to select or arrange the physical setting to make learning easier e.g., "I isolate myself from anything that distracts me." or "I turn off the radio so I can concentrate on what I'm doing."
7. Self-consequences: Statements indicating student arrangement or imagination of rewards or punishment for success or failure e.g., "If I do well on a test, I treat myself to a movie."
8. Rehearsing and memorizing: Statements indicating student-initiated efforts to memorize materials by overt or covert practice e.g., "In

preparing for a math test, I keep writing the formula down until I remember it."

- 9-11. Seeking social assistance: Statements indicating student-initiated efforts to solicit help from peers (9), teachers (10), and adults (11) e.g., "If I have problems with math assignments, I ask a friend to help."
- 12-14. Reviewing records: Statements indicating student-initiated efforts to reread notes (12), tests (13), and or textbooks (14) to prepare for class or further testing e.g., "When preparing for a test, I review my notes."
15. Other: Statements indicating learning behavior that is initiated by other persons such as teachers or parents, and all unclear verbal responses e.g., "I just do what the teacher says."
Technology: Statements indicating student-initiated use of technology in their learning such as computer, electronic message pad or calculator usage e.g., "I use my Newton to schedule my classes and different activities I have." or "I use the computer to write papers and to revise by cutting and pasting." and or "I use a calculator to check for arithmetic errors."
Motoric: Statements indicating student-initiated physical activities as a part of the way they learn and maintain concentration e.g., "I use sign language when I find I'm having difficulty learning something new." or "I find that I have to doing something when I'm studying like snacking or I find I chew on my pencil."

APPENDIX C

Seven Roles of Teaching

Rate according to the degree of importance each role (Least 1 - 7 Most).

Grade level _____ Male ___ Female___ Years of Experience _____

Teacher as Motivator

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Manager

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Instructional Expert

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Counselor

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Model

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Leader

Least Important 1 2 3 4 5 6 7 Most Important

Teacher as Reflective Professional

Least Important 1 2 3 4 5 6 7 Most Important

Comments:

Appendix D

OFFICE
OF
DEAN OF RESEARCH



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June 27, 1995

Principal Investigator:

The following project has been approved for exemption under the guidelines of Oregon State University's Committee for the Protection of Human Subjects and the U.S. Department of Health and Human Services:

Principal Investigator: Joanne B. Engel

Student's Name (if any): Julia O. L. Harper

Department: Education

Source of Funding:

Project Title: On Wings of Eagles: A Look at Self-Regulation of High School Students with Integrated Curriculum

Comments:

A copy of this information will be provided to the Chair of the Committee for the Protection of Human Subjects. If questions arise, you may be contacted further.

Redacted for privacy

Mary E. Nunn
Sponsored Programs Officer

cc: "CPHS Chair

APPLICATION FOR APPROVAL OF THE OSU INSTITUTIONAL REVIEW BOARD (IRB)
FOR THE PROTECTION OF HUMAN SUBJECTS

Principal Investigator* Dr. Joanne B. Engel

Department School of Education Oregon State University Phone (503) 737-4661

Project Title On wings of eagles: A look at self-regulation of high school students with integrated curriculum

Present or Proposed Source of Funding Nonfunded research

Type of Project Faculty Research Project

Student Project or Thesis*

Student's name Julia O. L. Harper Phone (503) 588-1652

Student's mailing address 7085 Battle Creek Rd. SE Salem, OR 97301

Type of Review Requested: Exempt Expedited Full Board

The Oregon State University Institutional Review Board (IRB) for the Protection of Human Subjects is charged with the responsibility of reviewing, prior to its initiation, all research involving human subjects. The Board is concerned with justifying the participation of subjects in research and protecting the welfare, rights and privacy of subjects.

All material, including this cover sheet, should be submitted IN DUPLICATE to the Research Office, AdS A312. Please call x7-0670 if you have any questions. The following information must be attached to this form with each item identified and addressed separately or the application will be returned without review.

1. A brief description (one paragraph) of the significance of this project in lay terms.
2. A brief description of the methods and procedures to be used during this research project.
3. A brief description of the benefits (if any) and/or risks to the subjects involved in this research.
4. A description of the subject population, including number of subjects, characteristics, and method of selection. Justification is required if the subject population is restricted to one gender or ethnic group.
5. A copy of the informed consent document. The informed consent document must include the pertinent items from the "Basic Elements of Informed Consent" and must be in lay language.
6. A description of methods by which informed consent will be obtained.
7. A description of the method by which anonymity or confidentiality of the subjects will be maintained.
8. A copy of any questionnaire, survey, testing instruments, etc. (if any) to be used in this project.
9. Information regarding any other approvals which have been or will be obtained (e.g., school districts, hospitals, cooperating institutions).
10. If this is part of a proposal to an outside agency, attach a copy of the funding proposal.

Redacted for privacy

Signed _____

Principal Investigator*

* NOTE: Student projects and theses should be submitted by the major professor as Principal Investigator.

7-93
men

**Application for Approval of the OSU Institutional Review Board
for the Protection of Human Subjects**

1. Description:

The question of interest: How do high school students self regulate in the process of learning and the roles teachers play.

2. Description of Methods and Procedures:

The research will take place at Hudson Bay High School, Vancouver Washington. The students are in grades 10-12 and are ages 15-19 years old. Qualitative and Quantitative measures will be utilized.

A. Quantitative: The high school administration will provide student transcripts, achievement test scores, and learning style inventory information. The school will assist the researcher in maintaining confidentiality for the students and teachers involved in the project. The school and the subjects will not be identifiable in the final report.

B. Qualitative: Students and teachers will be interviewed by the researcher. The questions for the student and teacher interviews are in Appendix B.

3. Benefits or Risks:

The benefits of the research will be to gain further understanding of how different methods of instruction facilitate or hinder the process of self-regulation of learning for adolescents. There are no risk factors.

4. Population:

The population for this study will involve students in grade 10 to 12 from a public high school. There will be a total of about 45 students. There are no English as a second language participants and all are proficient in English .

5., 6., & 7. Informed Consent:

Each subject will be given a form describing the research and requesting consent from parents, students and teachers. Anonymity will be maintained by strict confidentiality of test results. Number code will replace names for all participants. See appendix A for informed consent forms for all subjects.

8. Instruments:

Questions for the interviews are taken from Barry Zimmerman of City University New York. See appendix B.

9. Other Approvals

Letters from the cooperating school are attached. See appendix C

10. Funding Sources:

Non-funded research.

Dear Student,

My name is Julia Harper and I am a doctoral candidate at Oregon State University. I am preparing for a research project about how students in Eagles' Wing at Chesapeake Bay High School manage their learning. The ultimate goal is to discover whether a more student centered approach to learning results in more efficient connections between knowledge and future education or career choices for students involved in the program.

I will interview and do classroom observations. In addition, the school has agreed to provide me with standardized test scores and student transcripts. The estimated interview time is approximately 30 minutes per student.

Participation is voluntary; refusal to participate involves no penalty or loss of benefits. You may discontinue participation at any time. There are no risks involved in this project. The school will learn more about how adolescents manage their learning as a result of this study.

Your privacy will be maintained by changing names in the data for the final report. Individual interview and observations will be kept confidential. If you are willing to participate in this study, please sign below and return to Mrs. Brown at Chesapeake Bay High School. If you have any questions, please contact me at (503) 737-5980 or 737-5989. You may also write to me at the address on the letterhead.

Thank you for your assistance,

Julia O.L. Harper, Ph.D. Candidate

Joanne B. Engel, Ph.D.

I hereby give my permission to be involved in the study on schooling with Julia Harper from Oregon State University and release appropriate school records for the purpose of the study.

Student

Date