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Improving the Learning Approach of College Freshmen and Future Teachers Through Curricular Intervention

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IMPROVING THE LEARNING APPROACH OF COLLEGE FRESHMEN AND FUTURE TEACHERS THROUGH CURRICULAR INTERVENTION

by

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GRADUATE COMMITTEE APPROVAL

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This thesis has been read by each member of the following graduate committee and by a majority vote as been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the thesis of Lynna B. Shin in its final form and have found that (1) its format, citation, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures and tables are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

IMPROVING THE LEARNING APPROACH OF COLLEGE FRESHMEN AND FUTURE TEACHERS THROUGH CURRICULAR INTERVENTION

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Master of Arts

Students who exercise a deep approach to learning connect classroom content to real-life experiences. To help first-year students develop a deep approach to learning, Brigham Young University offers a program called Freshman Academy. Participants join a "learning community" based on their intended major. As part of this learning community, participants take recommended first-year courses together and engage in service-learning and problem-solving activities.

The purpose of this quantitative study was to explore changes in learning approach that followed participation in a Freshman Academy learning community for prospective elementary education majors. These changes were explored through a survey that asked students how they prioritized certain goals related to learning before and after participation. Significant findings of difference were found in post-test survey scores, indicating a marked change in learning approach at the end of Freshman Academy participation.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Current educational policy holds teachers accountable for student achievement (Nelson, 2001). As the media draws attention to failing schools, the public questions the effectiveness of both teachers and the programs purported to train them (Nelson, 2001). Kalaian and Freeman (1987) said that traditional teacher preparation programs hardly influence the pedagogical beliefs and practices of novice teachers. Perhaps what is missing is curriculum that deepens a prospective teacher's approach to learning.

Indeed, learning approach has particular implications for individuals who want to become teachers. A teacher's own learning approach largely determines their classroom practices (Porter & Freeman, 1986). Teachers who employ a surface approach encourage students to memorize facts to pass a test rather than apply knowledge to real-life situations (Biggs, 1999). In contrast, teachers conscious of showing students how to use a deep approach to learning compel them to connect content to other aspects of their lives (Tagg, 2003). Thus, Leamnson (1999) would argue that optimal teacher preparation begins with deepening students' approach to learning. He stated that an effort to change learning orientation should occur as soon as students enter college or else counterproductive attitudes about learning persist throughout the experience and beyond.

Roe Clark (2005) also said that success in college requires transitioning from the habits and attitudes of secondary school to those of higher education. Indeed, university instructors expect first-year college students to treat their studies with depth and critical analysis (Ramden, 1992). Many students are unaccustomed to this type of learning and a profound sense of inadequacy leads them to drop out of school (Astin, 1993).

Ramsden (1992) linked this sense of inadequacy to a surface approach to learning which leads students to be resentful, depressed, and anxious at college. A surface approach requires memorizing facts without relating them to concepts (Tagg, 2003). It relies on repetition, abstracted from a person's identity and what he/she already knows. In relation to reading tasks, a surface approach is characterized by dwelling on individual words rather than on principal ideas or the author's overarching argument (Marton & Saljo, 1984). In relation to college academics, a surface approach is associated with knowledge acquisition that fades when the semester is over (Tagg, 2003).

Conversely, Tagg (2003) described a deep approach to learning that leads students to connect course content with their own personal experience. Those who use a deep approach are more apt to gain genuine understanding. They consider ways in which subject matter relates to their definitions of themselves and the world. A deep approach does not necessarily make academic life easier but it leads to more fulfillment and pleasure with school.

Recognizing a gap between the preparedness of first-year students and what higher education demands, Brigham Young University has developed a program called Freshman Academy (www.byu.edu/freshmanacademy). Participation in Freshman Academy, which is optional, involves several components. First of all, participants join a "learning community" based on their intended major. As members of a learning community, they take recommended first-year courses with others who plan to major in their general field. For instance, freshmen who plan to study elementary education take core classes with other prospective elementary education majors.

Members of a learning community also enroll in a 1 credit hour course called Student Development. In Student Development, an instructor asks class members to apply concepts from

their core classes to genuine problems they might face in the world of work. Problem-solving in the context of peer interaction is said to engage students in complex cognitive processes (Savin-Baden, 2003) and encourage struggling students to persist in school (Astin, 1993). One example of problem-solving for prospective elementary education majors includes an activity where students collaboratively analyzed demographic data in relation to the community's education needs.

Another component of Freshmen Academy is service-learning. Service-learning is ongoing volunteer activity performed in conjunction with an academic class (Tagg, 2003). The purpose of service-learning is to help students negotiate classroom content with real-life problems. The underlying premise for service-learning is that college classrooms are not isolated entities and should expand into the surrounding community (Eyler & Giles, 1999).

Thus, through learning communities, problem-solving, and service-learning, Freshman Academy endeavors to deepen the learning approach of college freshmen who plan to be teachers. Past studies have shown that Freshman Academy had positive outcomes on personal development (Daynes, 2003). To add to those findings, I engaged in a quantitative analysis of change in learning approach, as measured by a difference in participants' perceptions about their priorities for learning before and after experiencing Freshman Academy. My intent was to help program administrators assess the outcomes of Freshman Academy and brainstorm areas for improvement.

Statement of the Purpose and Research Question

Therefore, the purpose of this study was to explore changes in learning approach that followed participation in a Freshman Academy learning community for prospective elementary education majors. This change was explored through a survey that measured how students

prioritized certain goals related to learning before and after participation. The research question was: To what extent do participants prioritize certain learning goals differently before and after experiencing a Freshman Academy learning community for prospective elementary education majors?

CHAPTER 2

REVIEW OF LITERATURE

In the mid 1970's, Marton and Saljo (1976) explored the concept of two learning approaches, deep versus surface, in the context of text reading. Some research participants sought the underlying meaning of the text and were thus considered to display a deep approach to the task. In contrast, other participants attempted to memorize as much of the passage as possible and were thus considered to exhibit a surface approach.

Entwistle and Ramsden (1983) broadened the concept of approaches to learning, applying it to course content. The concept was still framed by a relationship between learner and concept and was not used to describe a person's orientation to all academic endeavors (Marshall & Case, 2003). Accordingly, one might display a deep approach in one context but not another (Marshall & Case).

Dweck (2000) explained why first-year college students struggle to employ a deep approach in their college courses. She stated that American secondary school students are more likely than their overseas counterparts to subscribe to entity theory. Entity theory, which describes intelligence as fixed, leads people to regard academic struggle or failure as evidence of ineptitude that cannot be changed by effort. Steinberg (1996) also described an American over-emphasis on native intelligence, or innate ability. He explained that American students who perceived themselves as less intelligent than their peers failed because they withheld effort.

Dweck (2000) also explained that students oriented toward entity theory were overly concerned with approval from others rather than focusing on gaining genuine competence. They placed a high premium on immediate demonstrations of intellectual ability instead of mastery

over time. In college, these individuals tended to experience debilitating self-doubt, anxiety, and a decline in achievement.

In contrast, individuals who subscribed to incremental theory exercised a deep learning approach. When faced with failure, they tried new ways to succeed (Dweck, 2000). Despite inadequacy upon first entering college, they showed clear improvement in class standing over the course of the year. They exhibited more abstract reasoning skills and self-motivation than peers who displayed a surface approach to learning. They accepted the highest level of responsibility for their actions, maintained positive attitudes about school, and reported the lowest level of anxiety related to academics.

Leamnson (1999) explained why college freshmen largely do not employ a deep learning approach. He reported that college freshmen bring from high school a belief that school does not deal with real things. Consequently, they study just to pass a test without connecting new knowledge to their own personal experience (Conley, 2003). Boyer (1997) also described a discontinuity between secondary and higher education which called for curricular intervention to deepen the learning approach of college freshmen.

Responding to this call for intervention, many colleges and universities have instituted programs for freshmen (Lichtenstein, 2003). At Brigham Young University, first-year students who opt to participate in Freshman Academy are organized into "learning communities," based on their intended major. Members of a learning community take recommended first-year courses together. Learning communities are founded on the premise that college students are successful when they experience high levels of social interaction in an academic setting (Zhao & Kuh, 2004).

Indeed, Lichtenstein's (2003) extensive report showed how various types of learning communities can greatly enhance the freshman experience. Smith, MacGregor, Matthews, and Gabelnick (2004) found that participating in a learning community led students at risk of dropping out to stay in school. Gabelnick, MacGregor, Matthews, and Smith (1990) described how integrating classes helped freshmen build connections with classmates. Lichtenstein said that learning communities provided a forum to help students clarify what professors expected of them. Daynes et al. (2004) said that participating in a learning community helped students develop multiple perspectives.

It should be noted that various kinds of learning communities exist on college campuses. The general term "learning community" is used to describe programs that organize carefully designed groupings of students and faculty working intensively and collaboratively toward shared and significant learning goals, often by focusing on themes that cut across several disciplines (Angelo, 1999).

Lichtenstein (2003) differentiated between several models of learning communities. The first, the Linked Course Model, connected skill and content courses, such as an English Composition with Biology. The second, the Cluster Model, linked 3 or 4 courses and might address a common topic or theme (Smith, 1991). Students in the same 3 or 4 courses comprised a "cluster" and might experience integrated course content. Another model, called the Freshman Interest Group, consisted of three thematically linked courses supplemented by an advising component (Lichtenstein, 2003). Students met in groups on a weekly basis with an advisor. With this advisor, often an upperclassman, they discussed issues about transitioning to college and formed study groups. The last model, Coordinated Studies, was a fully integrated 16-credit hour program in which a group of faculty taught a small cohort of students. This program lasted

anywhere from one quarter to an entire year. For example, one program, "The Paradox of Progress," covered the history of western civilization (Smith, 1991).

Lichtenstein (2003) described positive outcomes associated with all 4 models of learning communities. Outcomes targeted for study regarded motivation and cognitive development. Additionally, Johnson (2000-2001) found a relationship between participation in a learning community and high grade point averages.

Indeed, varied learning community models have had positive outcomes on learning. More specifically, Cross (1998) reported that optimal models incorporate problem-based learning into the curriculum. Problem-based learning consists of a number of scenarios, or problems, designed to mirror situations that students could face in real life (Newman et al., 2001). In groups, students receive a short narrative describing a scenario and then research additional information, often via computer tutorial created by program organizers. The teacher serves as a more knowledgeable member of the learning community, modeling the process of thinking, questioning, and critiquing (Rideout & Carpio, 2000). In a Freshman Academy learning community, he/she also helps students apply concepts from students' core academic classes.

The use of problem-solving activities to deepen learning approach is grounded in Cognitive Psychology (Norman & Schmidt, 1992). According to tenants of Cognitive Psychology, learning improves when prior knowledge is activated (Newman et al., 2001). Additionally, by elaborating on newly acquired knowledge, individuals are more likely to be able to retrieve it later on. Thus, problem-solving activities, in requiring students to synthesize new and background knowledge, can increase the likelihood that students will apply what they hear in their classrooms to diverse contexts.

As mentioned earlier, problem-solving activities have been associated with many positive outcomes (Angelo, 1999). Angelo said that problem-solving activities simulate genuine work environments where people exercise principles of democracy and citizenship. Many theorists have stated that problem-solving activities endear students to lifelong learning (Newman et al., 2001). Ewell (1997) said that optimal learning situations compel students to confront specific, identifiable problems that are within their capacity to solve.

Problem-solving activities are the focus of the Freshman Academy Student Development course. Problem-solving activities require students to work in small groups on authentic problems that face the community, such as poor nutrition among underprivileged children and its repercussions on school performance and behavior. Such problem-solving activities can help students acquire cognitive and interpersonal skills needed in the workforce (Savin-Baden, 2003) and approach academic tasks with a deep approach to learning (Daynes et al, 2004).

Another component of Freshman Academy is service-learning. Service-learning, defined by the National Service and Community Service Trust Act of 1993, is a method of learning whereby participants acquire conceptual knowledge through active participation in thoughtful and organized service (Marks & Jones, 2004). To increase the likelihood that students will acquire conceptual knowledge, Freshman Academy participants are asked to engage in written reflection about their service-learning experience.

Schulman (1987) defined written reflection as a review, a reconstruction, and a critical analysis of one's performance, using evidence to ground explanations of what occurred. Tagg (2003) stated that written reflection about service compelled students to examine their beliefs and assumptions about the community. Cohen and Kinsey (1994) said that students who engaged in written reflection were more likely to connect academic content with other aspects of life.

Thus, for their written reflections, Freshman Academy participants are encouraged to illustrate how their service-learning experiences illustrate concepts they have encountered in their classes.

Theoretical support for combining service-learning with written reflection tasks can be found in the writings of Dewey (1916) and Kolb (1984). Dewey advocated for a link between course content and the larger world, as well as personal reflection upon one's growth as an individual. Kolb described a learning model that included four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Marks and Jones (2004) noted that service-learning and written reflection provided explicit opportunities for students to develop through each of the four stages.

Indeed, service-learning has been widely recognition for its use in fostering academic curiosity and inquiry in higher education (Marks & Jones, 2004). Buchanan, Baldwin, and Rudisill (2002) explained that service-learning leads participants to relate better with others and become sensitive to community issues. They remarked that service-learning was particularly valuable to college students pursuing education degrees; it seemed to instill a desire to create culturally relevant pedagogy. Furthermore, service-learning is thought to help college students develop civic commitments and abilities, a goal considered central to the mission of higher education (Preis & Fenzel, 2003).

Given the wealth of support for the integration of service-learning, learning communities, and problem-based learning, it seemed likely that Freshman Academy was having positive outcomes on students' approach to learning. After all, Daynes et al. (2004) analyzed levels of engagement in learning tasks among Freshman Academy participants and found that students who optimally fulfilled their assignments for the Student Development class, particularly by addressing issues in their written reflections having to do with their own development as a

learner, scored more highly on measures of student engagement on the National Survey of Student Engagement (NSSE.)

To add to the research of Daynes et al (2004), I based this study on what I reasoned to be a quantitative measure of learning approach. Admittedly, the validity of any particular tool for measuring learning approach is highly debatable, as no one survey claims to completely encapsulate it. Nevertheless, I chose the Learning Goals Inventory which assesses the priority level of 51 different goals related to learning. I reasoned that active awareness of one's goals, or what he/she wants to accomplish in particular learning settings, can be highly indicative of one's approach to learning.

Theoretical grounds for using goals to measure learning approach was found in Social Cognitive Theory, particularly the concept of triadic reciprocal causation (Bandura, 1997). Triadic reciprocal causation purports that one's choices are determined by interacting influences. These influences consist of internal and personal factors. Internal factors include emotions and beliefs. Personal factors encompass one's behavior, cognitive issues, and biological and environmental events. According to Roe Clark (2005), academic goals can be considered personal factors.

Furthermore, Bandura (1997) stated that students' perceptions of their academic responsibilities illustrate reciprocal interactions between internal and personal factors. Thus, according to Social Cognitive Theory, people are capable of previously unpracticed self-motivated behaviors. More specifically, through analyzing one's goals, a person can imagine a different state of being (Roe Clark, 2005). One's goals to develop a deeper approach to learning can bring an imagined future to bear influence on the present.

Another concept from Cognitive Psychology, under girding the use of goals to measure learning approach, is meta-cognition (Reardon, Lenz, Sampson, Johnston, Kramer, 1990). Meta-cognition is defined as the observation and monitoring of the learning process carried out by a learner. Effective learners are adept at meta-cognition; they are conscious of their learning processes and aware of what they are trying to achieve. Reardon et al. (1990) stated that helping students identify their goals related to learning could improve their meta-cognitive skills which would, in turn, enhance their academic performance. In essence, goals provide a valuable window into how students are situated in the learning process.

Additionally, Katchadourian and Boli (1985) identified goals as a useful construct for examining student performance. In addition, Stark, Shaw, and Lowther (1989) called for more studies that analyzed information about the goals of first-year students. Reardon et al. (1990) said that research about students' goals is needed in order to inform policy makers in higher education about what students expect to learn and how they go about learning. Moreover, they called for research on how the goals of students changed after experiencing some kind of curricular intervention.

In response to that call for research, this study explored how students' academic goals changed after participating in a freshman experience that endeavored to deepen participants' approach to learning. Comparison of how students prioritized certain goals, before versus after participation, provided evidence on how the integrated components of learning communities, service-learning, and problem-based learning may have influenced students' learning approach. The research question was: How might involvement in the first-year college transition program, Freshman Academy, influence the learning approach of participants, as measured through the way they prioritized 51 different goals related to learning?

CHAPTER 3

METHODS AND PROCEDURES

Design and Measurement Instrument

The purpose of this quantitative study was to explore how participants' depth of learning approach, as measured by the way in which they prioritized certain learning goals, may have changed after experiencing Freshman Academy. This change was assessed through a questionnaire called the Learning Goals Inventory. The Learning Goals Inventory contained a series of questions that required students to rate the personal significance of 51 different goals related to learning. These goals were categorized into the following groupings: Higher-Order Thinking, Basic Academic Skills, Liberal Arts Skills, Discipline-Specific Knowledge and Skills, Work and Career Preparation, and Personal Development. Each question was to be answered using a set of ordered Likert-type options: 1) Not applicable (a goal you never try to achieve); 2) Unimportant (a goal you rarely try to achieve); 3) Important (a goal you sometimes try to achieve); 4) Very Important (a goal you often try to achieve); and 5) Essential (a goal you always try to achieve).

The Learning Goals Inventory was adapted by Freshman Academy administrators from the Teaching Goals Inventory (see appendix) developed by Angelo and Cross (1993). The Teaching Goals Inventory is a non-copyrighted questionnaire designed to help college faculty identify their most important instructional goals. Respondents indicate the priority value of the goals. By doing so, they can discover discrepancies in their goal priority and achievement among students. The hope is that by identifying these discrepancies, colleges can form more integrated and cohesive programs for students (Angelo, 1999).

What differentiates the Teaching Goals Inventory from the Learning Goals Inventory (LGI) is that the directions in the LGI state that the purpose of the survey is to help students and Freshman Academy administrators understand what goals students find most vital to their involvement in the Freshman Academy program. Also, the directions on the LGI state that the survey was designed to help college students, as opposed to faculty, identify the goals they value most in an academic setting.

Two copies of the LGI were administered to each student on the last day of the Student Development course. Students were instructed to complete the first copy in their current mindset; in other words, their survey responses were to reflect how they felt about their learning goals on that particular day. The second copy, however, was to be completed retrospectively. In other words, students were to complete the survey, using current understanding to assess their past state of mind and being. This is called pre/post/then-test design.

Pre/post/then-test design is comparable to pre/post-test design. Both are used to analyze the influence or effectiveness of a treatment course. Pre/post-test design obtains information before and after a treatment and assumes that the two measures reflect the impact of the treatment course. However, pre/post/then-test design obtains information only after the treatment. The reasoning is that it may be faulty to assume that the way participants perceive a measurement instrument stays the same before and after a treatment, especially considering that the purpose of most treatments is to change participants' awareness of measurable variables. Howard (1980) noted that studies using traditional pre/post-test design may underestimate treatment effectiveness, causing an experimental hypothesis to be rejected unnecessarily.

According to Robinson and Doueck (1994), retrospective pre-tests, or "then" tests, can provide an accurate assessment of participants' change after treatment. The problem with

traditional pre/post-test design is that self-report can be contaminated by response shift bias, or a change in respondents' understanding of the phenomenon being measured between the pre- and post-test. Doueck and Bondanza (1990) argued that a change in participants' perceptions after a treatment can render the scores on the pre- and post- tests as less valid indicators of internal transformation. For example, in a study of women undergoing assertiveness training, participants' pre-test self-ratings would have been much different had they possessed the insight they gained at the end of the training (Robinson & Doueck, 1994).

Because the freshman semester is a time of transition, I expected a response shift in participants' basic understanding about the meanings of the items on the Learning Goals Inventory. In other words, because participants' fundamental understanding of college life was likely to change through the course of the semester, I felt that pre/post-test design, compared to pre-post/then design, would inadequately reflect a change in students' prioritization of goals. Admittedly, I expected participants to gain a degree of self-awareness through the course of the semester, not necessarily from their participation in Freshman Academy but simply by having to accept new responsibilities as a college student. I felt that this self-awareness was intertwined with the purpose of the study and only though pre/post/then design could it be accounted for.

Participants

Participants were 92 first-year students in the fall of 2005 at Brigham Young University, a private, religious institution located in Provo, Utah. Participants were enrolled in Freshman Academy, a semester long program designed to deepen their approach to learning and aid their transition to college.

Participants were aged 18-19 and were recruited from a learning community for those who planned to study elementary education. I chose to recruit from this learning community

because, as a master's student of education and high school teacher, I was particularly interested in how students who wanted to become teachers and had recently graduated from high school, approached learning. No monetary incentive was given for their participation. However, one of their instructors, who served as my thesis chairperson, enthusiastically encouraged her class members to participate in the study.

Treatment

The treatment was participation in Freshman Academy and, more specifically, the learning community for those who planned to major in elementary education. This entailed taking the core classes of history, religion, human development, and in most cases a mathematics or physical science course, with other prospective elementary education majors.

Participants also enrolled in a course called Student Development which convened weekly for one hour. The course was designed to help freshmen develop an inter-disciplinary perspective and critical thinking skills through extensive peer interaction and problem-solving activities. These problem-solving activities dealt with private vs. public rights and educational intervention programs for underprivileged children. They required that participants collaboratively interpret statistics and analyze information outside of class. The information, which included demographic data about Utah County, was provided by the Freshman Academy program and available in computer labs throughout campus.

One the last day of the Student Development course, participants (N=92) completed 2 copies of the LGI (see appendix). As explained earlier, the first copy was completed in participants' current mindset. This copy was the post-test. The second copy was completed retrospectively. This copy was the pre (then)-test.

Data Analysis

Using a one- and two-tailed t-test, I compared the mean scores of the retrospective pre (then)-test and the post-test for difference. More specifically, I calculated a one- and two-tailed t-test for the composite means scores for the questions that comprised each of the 6 categories of questions. These categories were Higher-Order Thinking, Basic Academic Skills, Discipline-Specific Knowledge and Skills, Liberal Arts Skills, Work and Career Preparation, and Personal Development.

Researcher Stance

As a graduate student in education at Brigham Young University, I hoped that this study would yield results that positioned Freshman Academy in a favorable light. Also, as a teacher who advocates the pedagogical principles under girding Freshman Academy, I assumed that the study would show Freshman Academy to be an extremely beneficial program. Nevertheless, in using quantitative data and analysis, I endeavored to minimize my bias.

Limitations

One limitation was inherent in using self-report, or surveys, as the measurement instrument. Self-reports can be inaccurate if respondents are unable to understand questions or are unwilling to respond truthfully (Bradburn & Sudman, 1988). Nevertheless, according to Bradburn and Sudman, people, in general, respond accurately to questions about their behavior unless doing so puts in them in a potentially embarrassing situation. Given that the LGI was completed anonymously, I doubted that respondents were less than truthful about their responses.

Another limitation of self-report is the halo effect, meaning that students tend to inflate certain aspects of their behavior and performance (Freely, 2002). However, Pike (1999) explained that the halo effect is consistent across different types of students and schools. As long

as researchers are aware of this halo effect, especially in comparisons of students in different contexts, the halo effect need not pose any great obstacle to assessment.

Furthermore, self-report is a widely accepted tool to assess the quality of undergraduate education (Kuh, 2001). After all, outcomes of interests, such as attitudes and values, cannot be measured by achievement tests. Indeed, Pascarella (2001) reasoned that students are best qualified to report their own gains in personal growth.

In regards to pre/post/then-test analysis, many researchers have claimed that using retrospective data welcomes memory lapses, cognitive errors, and participant bias (Bloom & Fisher, 1982). Of course, the use of pre (then) and post-tests with only 1 treatment group was less rigorous an approach than incorporating a no-treatment control group and non-self-report data measures. Admittedly, threats to internal validity were not controlled for in this study.

Indeed, the scope of this study was quite limited. Though I reported an outcome purportedly related to a treatment, I did not ascertain the extent of the relationship between the two. In other words, using quantitative analysis minimized my own bias but sacrificed a richness found in qualitative studies of service-learning, problem-based learning, and learning communities.

Another limitation was the nature of the homogenous population from which the data was drawn. Obviously, this sample did not represent the entire class of freshmen students. Also, the shared religion of the students meant that results can only be generalized to students across the nation with caution concerning differences in values.

Lastly, what I explored was a mere portion of the many facets of the program and the freshman experience. One might even argue that my conclusions oversimplify the complexities of higher education. Nevertheless, the conclusions in this study aim to contribute to the academic

discourse on institutional reform and student development, acting as a springboard for additional research.

Risks

Risks to the participants were minimal as data collected for this study could not be linked to individual identities.

CHAPTER 4

RESULTS

The Learning Goals Inventory (LGI) contained 51 questions, divided into 6 categories (see appendix). The categories, in order of appearance on the survey, were Higher-Order Thinking, Basic Academic Skills, Discipline Specific Knowledge and Skills, Liberal Arts Skills, Work and Career Preparation, and Personal Development. In order to analyze change in goal prioritization for each of these categories, I calculated a composite pre (then)-test and post-test mean that encompassed all of the questions in each category. For instance, in Table 1, the pre (then)-test mean and post-test mean for the category of Higher-Order Thinking represent the 2 overall means for questions 1-8. The pre (then)-test mean and post-test mean for the category of Basic Academic Skills represent the 2 overall means for questions 9-17. The pre (then)-test mean and post-test mean for the category of Discipline Specific Knowledge and Skills represent the 2 overall means for questions 18-25. The pre (then)-test mean and post-test mean for the category of Liberal Arts Skills represent the 2 overall means for questions 26-35. The pre (then)-test mean and post-test mean for the category of Work and Career Preparation represent the 2 overall means for questions 36-43. The pre (then)- test mean and post-test mean for the category of Personal Development represent the 2 overall means for questions 44-51.

Table 1 illustrates that both a one- and two-tailed t-test led to significant findings of difference between the pre (then)-test mean and the post-test mean for each goal category. In Table 1, the goal categories are listed in order, from largest mean increase to smallest: Higher-Order Thinking, Basic Academic Skills, Work and Career Preparation, Personal Growth, Liberal Arts Skills, and Discipline Specific Knowledge and Skills. The mean change in each goal

Table 1

Change in Mean for Each Goal Category

Category	Pre-test Mean	Post/Then-test Mean	*P* value *
1. Higher-order thinking	3.41	4.04	*P* <.01
2. Basic academic skills	3.62	4.16	*P* <.01
3. Work and career preparation	3.71	4.18	*P* <.01
4. Personal growth	3.91	4.31	*P* <.01
5. Liberal arts skills	3.41	3.84	*P* <.01
6. Discipline specific knowledge and skills	3.36	3.69	*P* <.01

* *P* values resulting from both a one- and two-tailed t-test.

category, or the collective increase of prioritization of each goal, was statistically significant at the $P < .01$ level.

Figure 1 also shows goal prioritization increases for each of the survey categories. Significant mean increases were found in each category, most particularly in Higher-Order Thinking, Basic Academic Skills, and Work and Career Preparation.

Prior to conducting the one- and two-tailed t-tests, I ran an ANOVA on each of the survey items. By so doing, I found a significant relationship ($P < .01$) between this group of participants and the population with which the survey was developed. Therefore, the participants of this study can be considered to be within the norm of a larger a population of students.

Highest Goal Priority Increases by Category

The largest priority increase was found in the way participants prioritized the goal category of Higher-Order Thinking. That difference could be attributed rather singly to a response shift experienced by participants in whom understanding of higher-order thinking was elevated through membership in Freshman Academy. This finding suggests that though secondary school graduates enter college largely ignorant of how to engage in higher-order thinking (Leamnson, 1999), first-year transition programs like Freshman Academy can help them recognize its importance.

The second largest priority increase was in the category of Basic Academic Skills. This may be most attributable to participation in a learning community. According to Zhao and Kuh (2004), students who did participated in a learning community, compared to those who did not, reported increased cognitive skills and abilities, especially in reading and writing. Blackhurst, Akey, and Bobilya (2003) said that participation in a learning community heightened academic success because students taught each other how to meet professors' expectations.

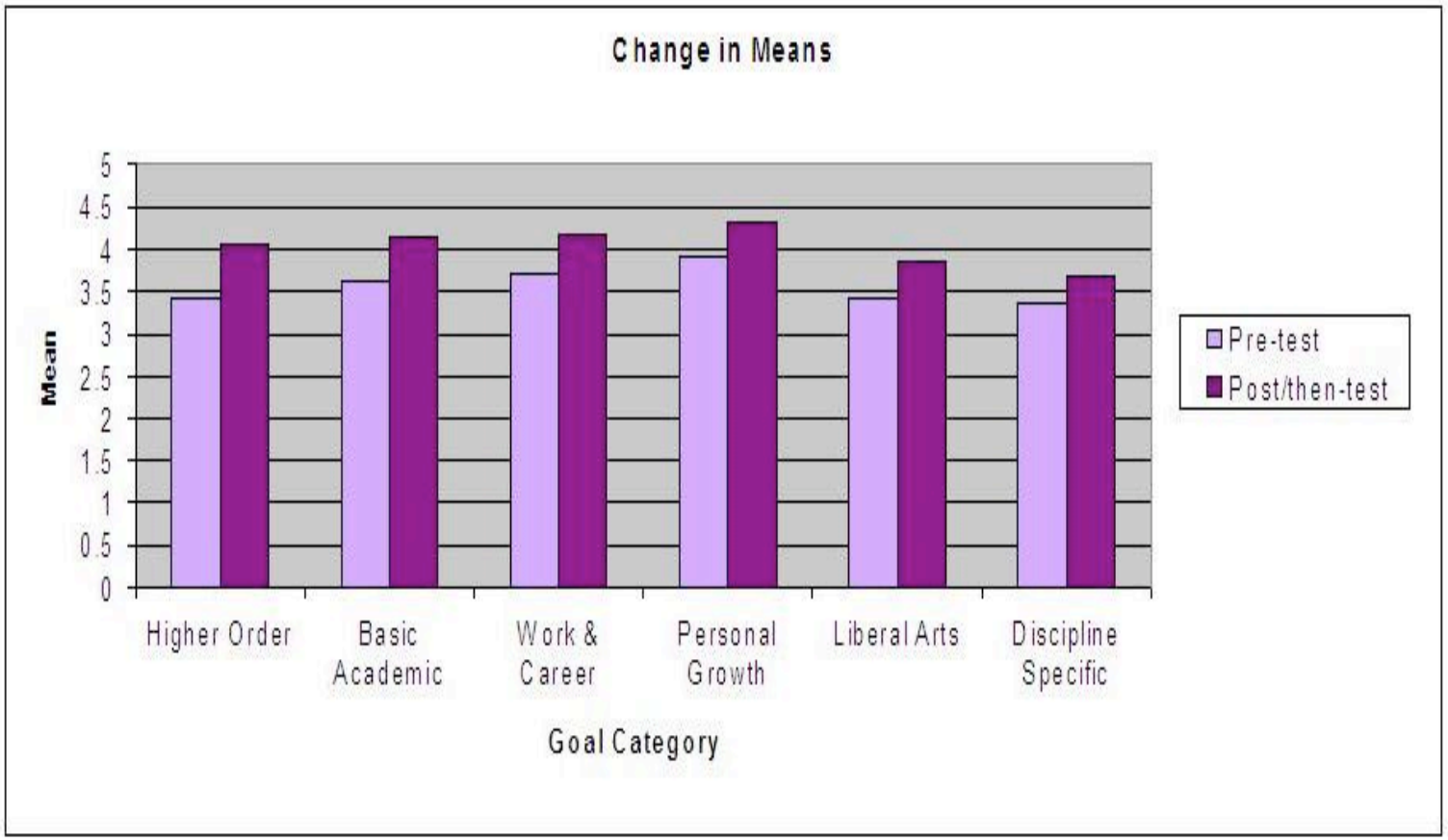

Figure 1.

Change in Mean for Each Goal Category.

The third largest goal priority increase was in the category of Work and Career Preparation. This could be attributed to the service-learning component of Freshman Academy. Ideally, by service-learning in schools, participants engaged in political, economic, and social analyses that increased their understanding of forces underlying educational issues. At the very least, service-learning in schools exposed them to the interpersonal challenges of the teaching profession. Perhaps the experience helped them grasp the needs of the community, particularly those of disadvantaged children (Anderson & Erickson, 1997), and develop broader worldviews (Wilberschield, Bauer, & Gerdes, 2003). In essence, service-learning may have increased their awareness of what teaching demands and how what they learn in the college classroom relates to what happens in schools. Future studies might explore how college students experience service-learning, particularly the disillusionment and enlightenment that accompanies initial teaching opportunities.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Introduction

Given the research support for first-year programs that incorporate learning communities, service-learning, and problem-based learning, study results were not surprising. Still, they require a discussion of their significance and bearing on college-level practice. Hence, this chapter is organized into 2 sections. First, I will discuss the findings of the study. Second, I will draw conclusions from the research.

Discussion

In this section, I will discuss what the findings indicate about participants' approach to learning after experiencing Freshman Academy. This section will address the overall move from surface to deep approach.

Significant difference in retrospective pre- and post-tests scores were found in each of the survey categories: Higher-Order Thinking, Basic Academic Skills, Discipline-Specific Knowledge and Skills, Liberal Arts Skills, Work and Career Preparation, and Personal Development. This suggests that the Freshman Academy program impacted the learning goals of participants, and by association, their learning approach.

Thus, transition programs like Freshman Academy may differentiate between students who develop a deep approach to learning and those who cling to a surface approach less serviceable in higher education. Tagg (2003) warned that without curricular intervention, college students would more tenaciously cling to a surface approach to learning the longer they remained in school.

Conversely, Haggis (2003) felt that the deep/surface construct reflects the value positions of wider class and social structures that do not belong in the mass higher educational system. Accordingly, the deep/surface construct is an assumption of the academic elite, or those with lofty intellectual considerations far-removed from the thought processes of the average college student. If this is true, programs like Freshman Academy are unnecessary and an ineffective drain on resources.

However, I contest that one purpose of higher education is to expose students to those very assumptions of the academic elite. Indeed, Barnett (1997) said the deep/surface construct substantiated the use of the word "higher" in higher education. Thus, by teaching students to regard their studies with more depth and critical analysis, college educators are including the "average" student in their "elite" circle, thereby maximizing what is gained from a college education. Indeed, if higher education is to be truly democratized, welcoming a less typically privileged population onto campuses nationwide, then it behooves college educators to expose their students to all kinds of "elite" assumptions. After all, Marshall and Case (2003) said the deep/surface construct reflects perspectives on the purposes of higher education that are vital to an open and democratic society.

Considering that participants in this study were college freshmen who intended to major in elementary education, they were not better situated than any other first-year students to deepen their learning approach. Nevertheless, after participation in Freshman Academy, they reported increases in their prioritization of each category of learning goals, implying that, contrary to Haggis' assertion, the deep/surface construct is not an assumption recognizable only to the academic elitist.

Indeed, Entwistle (1997) said that the deep/surface construct represents a recognizable reality. It may not stand for an absolute truth but can be a useful heuristic, or thinking tool, when combined with other theoretical perspectives (Marshall & Case, 2003). One of these perspectives is Barr's (1995) dichotomy of the Instruction and Learning Paradigms. Kuhn (1970) defined a paradigm as a construct of assumptions and models that define how a community operates. In the context of a college or university, a paradigm is a collection of implicit beliefs that drive decisions and policies, regardless of what the institution professes to stand for or do (Astin, 1993). One implicit belief is that a deep approach to learning is not vital to the college experience. Thus, one reason why college students are less likely to develop a deep approach is that their instructors neither exhibit nor value such an approach. However, by participating in Freshman Academy, future teachers may become better positioned to engage in practice that helps their students in this regard.

Indeed, Freshman Academy challenges the Instruction Paradigm in which many educators operate (Barr, 1995). The Instruction Paradigm does not induce students to use a deep approach to learning. It places utmost value on an instructor's performance, rather than students' insights and experiences (Barr, 1998). Hence, instructors neglect to ask students to interpret or apply ideas to practical situations (Biggs, 1999). As a result, students then struggle to simply retain knowledge concepts rather than embracing a deep approach to learning (McKeachie, 1999).

In contrast, instructors that function in the Learning Paradigm try to build on what students know rather than focusing on their performance (Barr, 1995). Indeed, it can be said that classrooms therein are student-centered, requiring collaboration, application of content to the

larger world, and connections between what students bring to the classroom and the knowledge they are hearing for the first time (Biggs, 1999).

However, college pedagogy is often the very opposite, with few opportunities for students to share insights with each other and negotiate meaning with their peers. This is unfortunate, given that the workplace is likely to demand that they collaboratively analyze problems and find solutions. Indeed, Bowden and Marton (1998) lamented that much of college instruction differed from real-life work situations and did not prepare people to and live in a global economy, discern critical features, or attend to simultaneous demands.

In contrast, Freshman Academy's integration of learning communities, service-learning, and problem-based learning, aligns with Bowden and Marton's (1998) vision for higher education. Furthermore, Ramsden (1992) said that by participating in a learning community, service-learning, and problem-based learning, students' minds were activated in ways that traditional lecture-based classrooms could not accomplish. Indeed, future research should describe how students responded to the demands of Freshmen Academy and how particular experiences related to involvement in a learning community, service-learning, and problem-based learning heightened awareness of learning goals.

Conclusions

In this section, I will describe this study's implications for college transition programs. First of all, given the benefits associated with Freshman Academy, I recommend that the program extend beyond the first semester. Roe Clark (2003) said that starting a new college semester can lead students to regress in the adjustment process. Thus, a first-year program like Freshman Academy should last an entire year so students receive a consistent and recognizable source of support. Maintaining Freshman Academy year-long would allow program leaders to

help students deal with ongoing challenges from the first semester. The second semester portion of Freshman Academy might be less structured than the first and respond to concerns as they arise. The second semester Student Development course might be more of a forum for students to share effective academic and social tools.

In regards to faculty members who teach Freshman Academy students, the implications are numerous. First of all, if the program purports to teach students how to engage in collaborative learning, faculty members should establish a comparable type of learning-community-like culture amongst themselves. Indeed, Angelo (1999) said that faculty members must establish a shared sense of trust, vision, and set of goals. He encouraged college departments to become less insular and instructors of first-year students to collaborate more readily with each other. Indeed, modeling a deep approach to learning begins with practicing its tenants in one's own professional relationships and practices.

Additionally, Dewey (1916) said that classroom practices reflect an educator's image of an ideal society. Accordingly, those seeking a world full of passive people will demand little of his/her students by way of comments, insights, or other contributions (Leu & Kinzer, 2000). However, those in search of an open, democratic society will engage their students in discussion, debate, and collaboration.

Indeed, preparing to be a teacher requires much more than oratory skill or subject matter knowledge. Dembo (2001) said that the typical self-absorption of a novice teacher led to poor achievement by his/her students. Furthermore, new teachers were notorious for neglecting to engage their students in higher-order thinking. One implication of this study, particularly the increase in priority value of Higher-Order Thinking, is that teacher preparation should influence

how individuals position themselves as learners, not just as teachers. Indeed, any potential teacher should first strive to become a better learner.

Hence, the key to influencing the behavior of future teachers is not necessarily an Educational Psychology course (Staley & DuBois, 1996); rather it may be a curricular intervention that impacts their goals and learning approach from the first day they enter college. For instance, through membership in a learning community, future teachers may realize the importance of collaborating with other professionals. Through service-learning in schools, they may develop a greater understanding of the civic and moral obligations of teaching (Anderson & Erickson, 1997). Through written reflection, future teachers may learn to reflect on the meaning of their thoughts and actions (So & Watkins, 2005). Through problem-solving activities, they may learn to solve problems instead of exacerbating them.

Summary

Transitioning to college requires adapting to the many social, emotional, and physical demands of higher education. An integral part of facilitating students' success is providing curricular intervention to help them meet these demands. Colleges and universities can enhance the first-year experience through programs like Freshman Academy which integrate learning communities, service-learning, and problem-solving activities to deepen participants' approach to learning.

Changing the culture of higher education so that more faculty members attend to the deep/surface construct may be a slow and laborious process. Professors may resist changing their style of teaching, and many students will still experience college as "a disjointed set of requirements that must be met before moving on to careers" (Daynes et al, 2004). Regardless, this study suggests that programs like Freshman Academy contribute greatly to successful

college transitions, necessitating further research on factors that enhance the first-year experience. In closing, curricular intervention aimed at deepening learning approach is a valuable part of the discourse on higher education and can help students, namely potential teachers, acquire complex understandings of the purposes of education and how to prepare the next generation for the demands of higher education.

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APPENDIX

Learning Goals Inventory

The Learning Goals Inventory

Purpose: The Learning Goals Inventory (LGI) is a self-assessment of learning goals. Its purpose is threefold: (1) to help college students become more aware of what they want to accomplish in various courses; (2) to help faculty understand students' expectations regarding learning goals in their courses; and, (3) to provide a starting point for discussions of learning goals among faculty and students.

Directions: Attached are two copies of the same survey. Complete the first survey in your current mindset, as a college student finishing his/her first semester at BYU. For the second survey, reflect on how you thought and acted when you first arrived at BYU. Then answer the questions in that mindset.

To complete each copy of the survey, rate the importance of each goal to the courses in your learning community. Assess each goal in terms of what you want to accomplish rather than in terms of the goal's general worthiness. There are no "right" or "wrong" answers—only personally accurate or inaccurate ones.

For each goal, choose only one response on the 1-to-5 rating scale. You may find it helpful to read quickly through all fifty-two goals before rating their relative importance.

In relation to the course you are taking, indicate whether each goal you rate is:

(5)	Essential	a goal you always/nearly always try to achieve
(4)	Very important	a goal you often try to achieve
(3)	Important	a goal you sometimes try to achieve
(2)	Unimportant	a goal you rarely try to achieve
(1)	Not applicable	a goal you never try to achieve

Survey Number 1 (to be completed using your current mindset)

1.	Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2.	Develop analytical skills	5	4	3	2	1
3.	Develop problem-solving skills	5	4	3	2	1
4.	Develop ability to draw reasonable inferences from observations	5	4	3	2	1
5.	Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
6.	Develop ability to think holistically: to see the whole as well as the parts	5	4	3	2	1
7.	Develop ability to think creatively	5	4	3	2	1
8.	Develop ability to distinguish between fact and opinion	5	4	3	2	1
9.	Improve skill at paying attention	5	4	3	2	1
10.	Develop ability to concentrate	5	4	3	2	1
11.	Improve memory skills	5	4	3	2	1
12.	Improve listening skills	5	4	3	2	1
13.	Improve speaking skills	5	4	3	2	1
14.	Improve reading skills	5	4	3	2	1
15.	Improve writing skills	5	4	3	2	1
16.	Develop appropriate study skills, strategies, and habits	5	4	3	2	1
17.	Improve mathematical skills	5	4	3	2	1
18.	Learn terms and facts of this subject	5	4	3	2	1
19.	Learn concepts and theories of this subject	5	4	3	2	1
20.	Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
21.	Learn to understand perspectives and values of this subject	5	4	3	2	1
22.	Prepare for transfer or graduate study	5	4	3	2	1
23.	Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
24.	Learn to evaluate methods and materials in this subject	5	4	3	2	1
25.	Learn to appreciate important contributions to this subject	5	4	3	2	1
26.	Develop an appreciation of the liberal arts and science	5	4	3	2	1
27.	Develop an openness to new ideas	5	4	3	2	1
28.	Develop an informed concern about contemporary social issues	5	4	3	2	1
29.	Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
30.	Develop a lifelong love of learning	5	4	3	2	1
31.	Develop aesthetic appreciations	5	4	3	2	1
32.	Develop an informed historical perspective	5	4	3	2	1
33.	Develop an informed understanding of the role of science and technology	5	4	3	2	1
34.	Develop an informed appreciation of other cultures	5	4	3	2	1
35.	Develop capacity to make informed ethical choices	5	4	3	2	1
36.	Develop ability to work productively with others	5	4	3	2	1
37.	Develop management skills	5	4	3	2	1
38.	Develop leadership skills	5	4	3	2	1
39.	Develop a commitment to accurate work	5	4	3	2	1
40.	Improve ability to follow directions, instructions, and plans	5	4	3	2	1
41.	Improve ability to organize and use time effectively	5	4	3	2	1
42.	Develop a commitment to personal achievement	5	4	3	2	1
43.	Develop ability to perform skillfully	5	4	3	2	1
44.	Cultivate a sense of responsibility for one' own behavior	5	4	3	2	1
45.	Improve self-esteem/self-confidence	5	4	3	2	1

46.	Develop a commitment to one's own values	5	4	3	2	1
47.	Develop respect for others	5	4	3	2	1
48.	Cultivate emotional health and well-being	5	4	3	2	1
49.	Cultivate an active commitment to honesty	5	4	3	2	1
50.	Develop capacity to think for one's self	5	4	3	2	1
51.	Develop capacity to make wise decisions	5	4	3	2	1

Survey Number 2 (to be completed retrospectively)

1.	Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2.	Develop analytical skills	5	4	3	2	1
3.	Develop problem-solving skills	5	4	3	2	1
4.	Develop ability to draw reasonable inferences from observations	5	4	3	2	1
5.	Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
6.	Develop ability to think holistically: to see the whole as well as the parts	5	4	3	2	1
7.	Develop ability to think creatively	5	4	3	2	1
8.	Develop ability to distinguish between fact and opinion	5	4	3	2	1
9.	Improve skill at paying attention	5	4	3	2	1
10.	Develop ability to concentrate	5	4	3	2	1
11.	Improve memory skills	5	4	3	2	1
12.	Improve listening skills	5	4	3	2	1
13.	Improve speaking skills	5	4	3	2	1
14.	Improve reading skills	5	4	3	2	1
15.	Improve writing skills	5	4	3	2	1
16.	Develop appropriate study skills, strategies, and habits	5	4	3	2	1
17.	Improve mathematical skills	5	4	3	2	1
18.	Learn terms and facts of this subject	5	4	3	2	1
19.	Learn concepts and theories of this subject	5	4	3	2	1
20.	Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
21.	Learn to understand perspectives and values of this subject	5	4	3	2	1
22.	Prepare for transfer or graduate study	5	4	3	2	1
23.	Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
24.	Learn to evaluate methods and materials in this subject	5	4	3	2	1
25.	Learn to appreciate important contributions to this subject	5	4	3	2	1
26.	Develop an appreciation of the liberal arts and science	5	4	3	2	1
27.	Develop an openness to new ideas	5	4	3	2	1
28.	Develop an informed concern about contemporary social issues	5	4	3	2	1
29.	Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
30.	Develop a lifelong love of learning	5	4	3	2	1
31.	Develop aesthetic appreciations	5	4	3	2	1
32.	Develop an informed historical perspective	5	4	3	2	1
33.	Develop an informed understanding of the role of science and technology	5	4	3	2	1
34.	Develop an informed appreciation of other cultures	5	4	3	2	1
35.	Develop capacity to make informed ethical choices	5	4	3	2	1
36.	Develop ability to work productively with others	5	4	3	2	1
37.	Develop management skills	5	4	3	2	1
38.	Develop leadership skills	5	4	3	2	1
39.	Develop a commitment to accurate work	5	4	3	2	1
40.	Improve ability to follow directions, instructions, and plans	5	4	3	2	1
41.	Improve ability to organize and use time effectively	5	4	3	2	1
42.	Develop a commitment to personal achievement	5	4	3	2	1
43.	Develop ability to perform skillfully	5	4	3	2	1
44.	Cultivate a sense of responsibility for one' own behavior	5	4	3	2	1
45.	Improve self-esteem/self-confidence	5	4	3	2	1

46.	Develop a commitment to one's own values	5	4	3	2	1
47.	Develop respect for others	5	4	3	2	1
48.	Cultivate emotional health and well-being	5	4	3	2	1
49.	Cultivate an active commitment to honesty	5	4	3	2	1
50.	Develop capacity to think for one's self	5	4	3	2	1
51.	Develop capacity to make wise decisions	5	4	3	2	1