

Progressive Service-Learning: Four Examples in Construction Education

Kevin L. Burr
Brigham Young University
Provo, Utah

This paper presents four diverse construction education experiences where the principles of progressive education were combined with service-learning methods to create a new learning environment. The examples presented in this paper might give construction educators some ideas where they can incorporate similar concepts into their curriculum to make the learning environment better.

Key Words: Progressive Education, Service-Learning, Curriculum

Introduction

All concerned educators dream of establishing a learning environment best suited for students gaining optimum knowledge. Many issues in education today deal with the need to align educational environments to fit real life applications that increase the motivation factors for students. Yet, many continue to administer education the same way it has been done for decades. As Cohen and Brawer (1989) put it:

“It is reasonable to assume that in an institution dedicated since its inception to ‘good teaching,’ new instructional forms will be tried. However . . . traditional methods of instruction still flourish. Visitors to a campus might be shown mathematics laboratories, the media production facilities, and computer-assisted instruction programs. But on the way to those installations, they will pass dozens of classrooms with instructors lecturing and conducting discussions just the way they and their predecessors have been doing for decades” (p. 155).

It can be said that the foundations of progressive education developed by John Dewey reflect an instrumentalism philosophy, using a hands-on approach, and emphasizing that truth changes as one gains greater. Dewey observed what experience in real-life applications could do to enhance the quality of learning for his students (Lauderdale, 1981). Burr (2000) indicated that progressive learning methods require a departure from traditional, set, preconceived objectives because the learning will be student directed. Progressive education occurs as real-life applications are joined with a self-directed series of experiences that create unlimited possibilities. Dewey emphasized in his work that students should be able to “work out something specifically his own, which he may contribute to the common stock, while he, in turn, participates in the production of others... The (student) is born with a natural desire to give out, to do, and that means to serve” (1964, pp. 118-120). Kinsley (1994) stressed that, as our

educational goal, service learning is an education process – not a program – where the service experience is directly related to the academic subject matter while making positive contributions to individuals and community institutions. Kahne and Westheimer (1996) added:

“Educators and legislators alike maintain that service-learning can improve the community and invigorate the classroom, providing rich educational experiences for students at all levels . . . Service-learning makes students active participants in service projects that aim to respond to the needs of the community while furthering the academic goals of students” (p.593).

The education examples presented in this paper depict a refreshing but not entirely new theory for learning. These examples combine progressive principles of education with service-learning principles. The two educational practices are highly related, and these examples provide evidence of success in learning when the two practices are administered collaboratively. Burr (1999) suggested that increased motivation for learning can happen with the collaboration of progressive education principles and service learning – *progressive service-learning*. Progressive service-learning methods help students learn and develop through active participation. Optimum progressive service-learning activities should coordinate in collaboration with an institution of education and should provide time for the student to think, talk, and write about what they experienced.

All of the following examples of progressive service-learning applications were developed from different social environments. One example occurred in the Western United States metropolitan area of Las Vegas, Nevada in a culturally diverse environment. Another example took place in the Mid Western metropolitan community of Oklahoma City, Oklahoma. A third example occurred in a smaller metropolitan Mid Western community of Guthrie, Oklahoma. The fourth example happened in a rural community in South Central Missouri. These examples included students from different age groups, genders, racial backgrounds, and cultural aspects. Some students were just beginning their formal education while others had all but finished. Despite these differences, each project similarly produced success – students who felt like they had gained applicable knowledge not available in the traditional classroom while also experiencing a sense of contribution in a valuable and meaningful way to their community.

Four Examples of Progressive Service-Learning Applications

Las Vegas, Nevada Homeless Transition Center Project

During the spring of 1993, the Architecture Club at the Community College of Southern Nevada began to investigate how to achieve their goal for becoming more active in the community. One of the main principles of architecture and construction is to be able to assist in the building of societies. The students decided to spend a few days researching current community needs or issues.

At the next meeting there were several issues that the students discussed as potential topics. One of the major issues was the problem associated with the Las Vegas homeless situation. The mild

climate along with a substantial urban base is appealing to the homeless population. This fact, compounded with the number of people who come to Las Vegas to seeking employment and do not find it, makes Las Vegas a city with a large homeless population. By the end of the meeting, all of the students agreed to concentrate on this issue. A special Building Technology course at the Community College of Southern Nevada was specifically created for those students who wanted to be involved in a special architectural study. Twelve members of the Architecture Club signed up for the “special topics” course that began in the Fall semester, 1993.

The students who participated in the Las Vegas, Nevada Homeless Transition Center project were enrolled into the Architecture Program at the Community College of Southern Nevada. Most were close to graduating with a good understanding of architectural procedures and techniques. The students ranged in age from eighteen to thirty-two and there were seven males and five females. Two were of Hispanic decent, one Native American, one African American and the rest were white Americans.

The students discussed strategies to accomplish needed research and began the collection of data to identify the direction of their project. Some students searched the libraries and past news coverage of homeless and transient problems in Las Vegas. Some of the students made appointments to visit with city and county officials. Two students elected to actually spend a week with the homeless gaining a personal perspective.

When the fieldwork was finished, the students discussed the collected data. They were interested in providing a solution that would be different from the unsuccessful attempts being tried by civic and other government organizations. From their inquiries the group identified that existing facilities did not seem to be effective in meeting the identified needs and recognized community interest to support a new center for the homeless. The students found that they were in need of a facility that would not only provide the physical needs of food and lodging but also an opportunity to gain education, proper hygiene practices, job preparation, employment ethics, and employment skills. The president of the CCSN architecture club told the local newspaper that, “The idea is to make this project part of our class at first, then make it a permanent activity of the club. We have some architectural ideas ready to present to people who want to participate in the project and they came from shoulder-to-shoulder research with homeless persons in the Las Vegas area.”

One of the major elements learned by the students was the importance of research and its application to the architecture/construction field. The research provided identifiable direction in which to pursue for their proposal. The excitement and motivation of the students as they immersed themselves into the research demonstrated a true commitment to the project. Students became engrossed in a project that was real to them, a part of their community. A positive and motivated attitude existed among the class members that surpassed most traditional classes.

The students devised a proposal for a “Homeless Transition Center,” to not only provide accommodations for the homeless but also to assist in the other educational and civic needs identified through research. They worked with civic groups and city organizations to incorporate essential aspects of the project. The structure of the class was considered loose and autonomous. The studio was open from 7:00 a.m. to 11:00 p.m. Students directed and created every aspect of

the class/project. The flexible environment accommodated the needs of the project. Involved in a new or exciting idea, students occasionally would work all night long in the studio. There were also times of the day when no one would be in the studio. The professor was more a facilitator and worked side by side with the students to facilitate the learning process and contribute to the proposal's completion. The students themselves were collectively responsible for the success or failure of the project proposal. The autonomous environment contributed to the motivation and eventual success of the project. The evolution of the project reflected the upward spiraling aspects of a purely progressive approach to learning.

At the end of the semester the completed proposal included presentation drawings that represented the facility's use and form and a written document explaining the results of the students' research and the direction of focus for the proposal. Several potential site locations were also identified in the proposal. These included ideal locations with new building design features that supported the research, another reflected retrofitting and remodeling existing structures. The proposal attracted substantial positive public and press interest and was credited with raising community awareness of this issue. The students were impressed with what they were able to accomplish. They were also happy that what they had done might have an impact for the better upon their community.

The Guthrie, Oklahoma Project

The Guthrie, Oklahoma Project took place during the summer of 1996. Guthrie, Oklahoma is a community of about twenty-five thousand residents located almost directly in the center of the state of Oklahoma. The city of Guthrie, Oklahoma did not have the economic resources needed to pursue an adequate architectural and historic preservation study. The city officials of Guthrie became excited as they were approached about the possibility of participating in an Oklahoma State University-OKC service-learning project. A special summer class entitled "The Guthrie Experience" was created. The student participants of the project consisted of architecture and construction majors representing OSU-OKC. The student group was to prepare an in-depth architectural study and make recommendations to enhance Guthrie's historic downtown business area.

Of the eight student participants working on the project, one was African American; two had Native American heritage; one was a native of Brazil; and the other four were white Americans. The group of students consisted of two females and six males. The age range of the group varied from the early twenties to the mid forties.

In April 1996, enrolled students met to decide how to approach the upcoming project. They all agreed that the best possible environment would involve setting up a home base or office at the project site in Guthrie. The city of Guthrie provided about 800 square feet of space in one of the historic downtown buildings for the group to set up an architectural office and also encouraged cooperation of local businesses. This progressive service-learning opportunity established a realistic working environment, simulating an architectural office that created a sense of real meaning for the project.

In one of the first group meetings, the students discussed what exactly should be included in the final presentation. The students discussed how to assess what the needs of the community might be and how to identify the valued concerns for the historical downtown business area. The students suggested doing a survey and asked how to effectively create one. At that time the instructor conducted an impromptu mini-seminar on how to develop a survey instrument from which they proceeded to develop two surveys, one for community members and another for the downtown business community. Identifying direction for the specific questions in the surveys, they spent substantial time at the library, in museums, and talking to community members. They noticed that over a hundred of the historic buildings in the area were registered with the National Historic Society. Historic preservation became one focus of the survey questions. Also, city officials had expressed a hope for increased tourism and that became a value for the surveys. The students developed the surveys then refined, scrutinized, and reformatted them until a satisfactory rendition evolved. To administer the survey some of the students went door to door in the downtown business area while others addressed local citizens at the grocery stores.

Desiring to make the best use of their newly gained information, the students were unclear on how to represent their design concepts. After concentrated discussion they decided a scale model would represent their ideas in a way that all citizens could interpret and understand. What they did not realize at that point, however, was the difficulty and complexity involved in creating such a visual aid, with adequate exactness, given limited time and experience. Learning truly began at this point. The area to be studied proved to be significant and would require a large model to visually illustrate the design concepts. The finished model ended up incorporating five sheets of 4'x8' plywood which encompassed an area of 8'x20'.

From the western most part of the historic downtown area to the eastern most part represented a significant change in physical elevation. The students decided that for the model to be a true representation it would need to reflect the actual elevation grade changes. Surveying equipment was brought in from campus and the students became involved in learning how to survey and establish actual elevation grades. Students participated in all of the aspects of shooting elevations. They took turns taking survey notes including setting up the instrument, running the rod, and taking shots for record.

They all speculated what the difference in elevation would be from the lowest point to the highest in the survey. The estimates were anywhere from thirteen to twenty feet of elevation difference. The professor stated that he thought it would be closer to fifty feet of elevation difference. Some students laughed, and said that they would be very surprised if that were the case. After the group was shown how to calculate the elevation differences, the instructor indicated the greatest difference in physical elevation was determined at +/- 46.00'. All of the students were surprised but learned from the results.

As the students wrestled with the best way to build the scaled model, they were faced with many progressive learning experiences throughout the process. One example occurred when the students were discovering the most efficient way to construct the bases for the model. It was decided that on the first and second of five bases, the second representing the greatest difference of elevation change, that layers of ¼ inch foamcore board could be used and staggered back by layers to represent elevation differences. Since the scale factor on the model was $1/8'' = 1'-0''$,

each layer of foamcore would represent two feet of elevation difference. Then to smooth out the stepping effect of the layered foamcore board, applications of wall joint compound were used. By the time the second board was finished and moved out to a storage room, it was considerably heavy. Also, the students noticed that a great deal of foamcore board, which was expensive, had to be used to create the base. The students soon realized that the project budget was not going to allow for the purchase of additional foamcore board. They discovered that the bases were also very time consuming to create using this layering system. On the third base, two of the students went about engineering a better alternative to build the remaining bases. They did this by constructing tapered supports, representing elevation differences, and layering two layers of foamcore board on top of the tapered supports. This method proved to be much faster and far more conservative in the use of expensive foamcore board.

By trial and error, the students experienced, conversed, pondered, and re-experienced to create a very expeditious and professional method of constructing the scaled model building replicas. The students used colored pencils to draw many of the decorative aspects onto the facades. In the beginning, the students had been cutting every detail into the facades. However, they learned by their experience and developed a scheme that was more time and material conservative.

Using their individual talents, each participant created a niche for themselves as to the areas in which they could competently give to the project. This created a cohesive group of important single entities working toward a common goal.

The students were able to learn about a wide variety of related architectural topics and could see the correlation between the topics. For example, on a typical day of the project any one student could be seen gathering dimensions of buildings, inputting information into the CAD system, assessing design criteria, consulting with other students, building on the model, visiting with the news media, conducting research, meeting with city officials, and administering information surveys. Understanding the connections between subjects taught in classes, creates a common void in the traditional method of learning for students.

The completed student project proposal gave the city of Guthrie, Oklahoma a professionally prepared list of recommendations and full-scale model of the proposal to enhance, preserve, and further develop the historic downtown business area. These recommendations were received by the city officials at a formal presentation on September 17, 1996. The model had been on display for about six weeks previous to the presentation for citizens and public officials to have the opportunity to view and consider the recommendations. At the conclusion of the presentation, the mayor of Guthrie read to the students Guthrie City Resolution #96-26 which honored OSU-OKC's efforts and gratefully accepted the service project proposal. The significance of what the proposal meant to Guthrie City was not fully realized by the students until this moment. Many of the students had tears in their eyes. One student said, "This has been the greatest education experience of my life." Another student wrote in his final entry of his personal journal, "I am grateful to have been able to participate in such a noble and interesting course." Yet another student wrote in his final journal entry:

"I would like to take this opportunity to express the gratitude for this experience that I have had in working on this project. I have thoroughly enjoyed myself and I think the

knowledge that I have gained, the experience that I have gained, and the service I have given will be beneficial to me in the future, not only in business, but mostly in a personal sense of remembrance and delightfulness. I will truly miss seeing everyone every day or so. I seem to be at a loss for words, so I will just say thank you. We truly did make history!”

The Oklahoma City Memorial Design Competition Project

At 9:05 a.m., on April 19, 1995, the author was in his third floor office getting ready for his class at Oklahoma State University in Oklahoma City. Suddenly the entire engineering building shook as if an immense earthquake had just occurred. The rumble seemed to last for several seconds and then an eerie quiet followed. After a few moments people began to emerge from their offices with quizzical faces wondering what had just happened. Off to the east, a massive swirl of black smoke gradually rose upward to the sky, sirens began to scream, as did people, and thus began the horror which would forever affect the lives of those who experienced the bombing that day in Oklahoma City.

Life dramatically changed for everyone who lived in the Oklahoma City area after April 19, 1995. The magnitude of the tragedy could not have been possibly experienced by those watching on television as compared to those who lived it. The students in the architecture and construction program were not unlike many others in the OKC area. They all had friends or relatives who were killed that day. Many were involved in the rescue and humanitarian efforts. They too were trying to cope with the senselessness of that savage terrorist act and the tragedy deeply affected all of their lives.

It was a difficult year following the bombing for all the residents of the area, including the students at OSU-OKC. A lot of discussion in the community followed about converting the bombing site into a memorial that would appropriately remember the tragedy. Mayor Ronald J. Norick appointed civic leader Robert M. Johnson to lead a 350-member task force charged with the development of an appropriate memorial. An Advisory Committee of the Task Force worked to create a mission statement (1996, p. 5) that appropriately expressed the sentiment toward a memorial theme. It was unanimously adopted by the in March, 1996 . . . the opening four lines of the mission statement are:

*We are here to remember
Those who were killed, those who survived and those changed forever.
May all who leave here know the impact of violence.
May this memorial offer comfort, strength, peace, hope and serenity.*

Effective as of September 1, 1996, the Task Force was transformed into the Oklahoma City Memorial Foundation.

In September 1996, the Oklahoma City Memorial Foundation announced an International Design Competition. The objective was to capture a design for the site which best emulated and interpreted the mission statement identified by the foundation. Several members of the OSU-OKC Architecture Club expressed a desire to participate in the design competition. The students

were inspired by the opportunity to contribute their own feelings, ideas, and expressions about the bombing through a design proposal for the memorial. Their idea included creating a “special topics” course that would accommodate any students who would like to participate in the Memorial Design Competition. Eight architecture students, all white males between the ages of eighteen and twenty-six, enrolled into the special course conducted the fall semester 1996.

The criteria for the proposal were pre-established by the foundation and became a standard for all participants. All submittals were to be prepared on a 30”x 40” presentation board depicting original ideas and thoughts appropriate to the foundation mission. The pre-established criteria worried the students. There was so much that they wanted to do and say, yet they were limited to one, seemingly small 30”x 40” board to express it all on. The major concept the students learned was how to prepare a presentation that had definite limits. By struggling with this limitation, they learned to direct focus on the very most important aspects of their presentation. Therefore, an incredibly important part of their work became research. The students wanted to glean every essence of what was most important for the memorial to incorporate into their proposal. Each participating group was given an opportunity to visit the bombing site, soon to be memorial site, where the Murrah building had once stood. The day that was assigned to the OSU-OKC group was cold, wet, and as nasty as the gloomy aura that hovered over the site. The students listened to a preliminary description of the events leading up to the bombing given by one of the members of the foundation and then viewed pictures, looked at memorial items left at the site, listened to facts surrounding the bombing, and learned about the victims of the disaster. Then they were allowed to walk out into the guarded fenced-in area where the building had once stood. The students were visibly overcome as they absorbed the calamity. Drops of cold rain were driven by a colder wind, but the students remained -- their faces wet with not just rain but tears as they remembered. After some time, they left with a reverent understanding of the task at hand and an undaunting commitment to finish what they had started.

The site visit seemed to instill within the students a great motivation to find out all that they could about the disaster, the people involved in the rescue mission, the victims and their families, the community that they lived in and how all had been affected. There were a lot of stories, information, and news coverage on the Internet and the students were engulfed in getting as much information that they could to steer their ideas for a presentation. They needed to get as much data as possible in a relatively short time and they learned to establish a schedule for the completion of their proposal that included research, design and development, and the finishing stages. The professor’s role would again be one of facilitating learning and assisting in the actual completion of the presentation. He worked alongside the group.

Upon completion of the research and the data collection stage, the students spent literally days interpreting the data and trying to identify a central theme to their proposal. One factor that emerged from the research was the ribbon that people wore pinned to their clothing that represented hope, strength, and solidarity. The students thought that the ribbon represented a significant community attitude.

The research also determined that there existed an overwhelming sense of gratitude in the community for those thousands of people who sacrificed their time and dedicated themselves to

the relief and sustaining efforts. They wanted to honor all those who helped and thought that this needed to be an important part of their proposal.

Finally, the students deeply felt that those who lost their lives needed to be reverently acknowledged including the nineteen children. This was the most difficult part for them. The difficulty came with how to appropriately and reverently address this part. Many hours of brainstorming, designing, and conceptualizing ensued as they worked painstakingly to convey the ideas and deep feelings that they possessed for the topic of the proposal. One of the students was a talented artist and he came up with the concept of Teddy Bears as a minor theme. His drawings of playful bears in a playground environment were well accepted by the rest of the students. Based upon this idea the students designed a children's memorial that included small statuettes of nineteen playful bears in a playground representing the children who lost their lives. One student was charged to develop the full site proposal as part of the submittal board, another rendered the ribbon monument in the surrounding fountain, other students worked on the memorial wall and meandering gardens to develop drawings that would appropriately depict the ideas. When all of these drawing concepts were finished, they were strategically placed upon the 30"x 40" presentation foamcore board and then colored. On the day all proposals were due to the foundation, the students placed their submittal among the other five hundred plus. It was a personal representation of countless hours, many tears and personal commitment to healing a city -- a country.

Upon their presentation board they inscribed the words:

This proposal represents a simple yet profound statement depicting a memorial reflecting the significance of April 19, 1995. The focus of this proposal is represented by a structure of the ribbon that so appropriately symbolizes the hope generated from people by the disaster that would stand at the height of the pre-existing Murrah Federal Building. At the base of this structure would be a fountain with a garden at its center and five angels representing different races and depicting hope. Meandering paths with brick pavers would lead through naturalistic gardens where visitors could view several monuments honoring those who gave of themselves during the disaster and the survivor tree. These monuments would be made of artistically etched granite slab/eye slits into the bermmed gardens about four feet high. The sacred area, where the building stood, would be protected and the existing garage wall would become a memorial clad with granite and scattered with etched murals depicting epitaphs and artists' conceptions of hope, joy, community, love, and happiness. The mural would also honor those who died in the disaster. A children's memorial, also in the sacred area, depicting nineteen playful bears representing the nineteen children lost in the disaster.

Opportunities like the Oklahoma City Bombing Memorial hopefully will not be common. However, opportunities to enhance students' motivations through progressive service-learning are available in every community.

The West Plains, Missouri Project

In May of 1997, the West Plains City Chamber of Commerce collaborated with Southwest Missouri State University-West Plains in order to do an architectural research study to evaluate the possibilities for rejuvenation of the old town square business area. City officials were interested in knowing what could be done to enhance the old downtown area and bring life back to its once active commercial environment.

The circumstances for student participation in the West Plains project were unique. Unlike the students in the Guthrie project, the West Plains students were all citizens of that community. Eight students enrolled in the "Architecture on the Square" project and while all of them were interested in this area none of them had been involved in any previous architecture schooling, which was also unlike the students in the Guthrie project. Five had taken general drafting applications at the vocational/technical school. Three had no related education or experience. Most of the eight students in West Plains were interested in the course because they had an interest in learning further architectural expertise and also because they held a genuine concern for the betterment of their community. All were white male students between the ages of nineteen and forty-five.

Before the students actually enrolled into the course, the professor had the opportunity to discuss the class and what to expect in the learning experience with each student. They were told that this would not be a traditional course, but it would be a progressive service-learning experience, one that would identify objectives as the project evolved. The thought of participating in this type of educational experience seemed to excite the students as they expressed desires to get started with anticipation. Nation's Bank, located on the old city square, agreed to let the group use the second level of their building to conduct the research and prepare a proposal. Nation's Bank also donated many of the materials needed for preparation of the final proposal. It was important to the students to be at the site of the project, even though the geographical location of the architectural study was only a few blocks away from the campus. The space provided by Nation's Bank provided the students with a realistic work environment in which to do the study. To them, it was not a classroom but an architectural office. The students worked with each other collaboratively as business associates working toward a common goal and not just merely as students in a class. The central office location was also ideal for community visitors to the project. Many business owners and community members alike felt free to drop in and visit the office, look over the progress, and make useful comments. The students were presented with many opportunities to interact with the community.

The motivation for this class was naturally driven for the students. This was their community, the place where they had grown up. The town square had been a part of their lives since birth. They demonstrated a sincere concern for their community as they began to address the architectural issues related to the study. There was a true sense of pride in what they were doing. The progressive service-learning project took on a new meaning because it was already a part of them.

In the beginning they discussed what needed to be accomplished to find direction for the proposal. As they discussed, their topics became personal because the students knew the business and property owners, the history, and the sentiment of the community toward the square. Depending upon the background and their community ties, the students had their own

individual opinions about the architectural proposal. The West Plains students each felt that they already had an “ideal” understanding of the needs for the square. They believed that research was not necessary; however, the students realized that each of their personal understandings were different. They could not come to a clear agreement on a direction to pursue. Finally, they concluded that they would need to evaluate the community’s interests as a whole. A survey instrument regarding community values of the square would be needed.

Issues for the survey included topics like safety concerns, traffic, and pedestrian flow, historical preservation, beautification, and marketing the square. From these base values, the group organized a series of survey questions to ask the public. The students realized early on that the responses of community members might be different from those of the town square business owners. To effectively observe the potential differences in survey answers, they copied the survey onto two different colors of paper, one for the general public and one for the business owners. Some of the students went door to door to square business owners while others visited local stores to survey the general public.

After the surveys had been collected and evaluated, the students were surprised to observe that the opinions and values of the square business owners greatly differed from their own views regarding the function and purpose of the square. The survey then gave direction for the architectural study, although not the direction that the students originally had anticipated.

Over the next period of about ten working days, they worked on defining the direction which was indicated through their research. Some of the students visited the city offices and obtained aerial maps of the square, topographical information, and other useful material. From the “topo” maps they were able to gain a bird’s eye perspective of the entire geographical area of the square under consideration. Tracing paper was used as an overlay of the area and cycle upon cycle of brainstorming discussions ensued to address creatively the identified direction for the study and then the incorporation of them into an aesthetically appealing proposal.

After a lot of deliberation concerning the best mode to illustrate the proposal and similar to the Guthrie project, the West Plains students decided to build a scale model of the square incorporating the new concepts. They were eager to learn effective methods of architectural model building, and the instructor took the opportunity to discuss with the students several different methods. The students then decided that the most accurate and time efficient method was to build the model out of mat board representing the facades of the buildings. A logical scale factor was determined to build the model and work began on this phase of the project about three weeks into the class. The West Plains students had no prior experience in model building and struggled at first. They were unsure about themselves and hesitant toward their capabilities to perform quality work on the model. It was during this time that they became very teachable. The instructor was able to give directions on typical model building techniques. The students paid careful attention to the instructions and became excited to learn. They picked up on the model building techniques quickly. Over a short period of time, the students gained confidence in their work, and progress on the model began to escalate. One student said, “At first I was afraid to build on the model, but now it is fun!” One of the students, over-night, drew one city block of building front elevations on his CAD system at home. His elevations were used as a template for cutting out the front facades for those buildings. This pattern developed into a

tradition and the student, who didn't feel comfortable cutting, became the template maker for all of the other students doing the cutting

Creative concepts emerged and were incorporated into the proposal as the model progressed. What happened was a typical concept for architecture. It is called the "study model concept." By building study models, architects can effectively observe important issues pertaining to the project and then plan for solutions. However, the students would not have understood the "study model concept" without first experiencing the process that led up to the decision to build a model. They became aware for the first time of the important features and personalities of the buildings that they had walked passed for many years – but had never before really noticed. They became appalled at the degeneration and attempted modernization of these beautiful, historic, and architectural edifices. They became actively involved in a genuine process to enhance and preserve the square.

Each student collaborated and contributed their specific talents in the different areas of need. For example, one day while they were working to build and finish the second part of the four part model, one student created building replicas for the west side of Washington Avenue, another worked on the east side. One student worked on designing grade variations for the next model base, and two others built the frames for the remaining two model bases. The work required an awareness of the tasks that needed to be accomplished rather than simply a set of predetermined assignments established by an professor. The scene was a collaborative effort toward a common goal. Fear for grades or assignment deadlines were not the students' motivations.

About mid semester one student brought his mother to see the development of the model. Proudly, he showed her the concepts that they were developing to enhance the square. After he escorted her back to her car, the student returned and said that his mother, a lifelong member of the community -- approved. He also had some suggestions from his mother that they might consider. Some of her ideas were eventually incorporated into the proposal.

Differing from the traditional education classroom environment, this progressive service-learning project required students to identify problems and create acceptable solutions, grappling to grow from the experience. One example occurred as the students were trying to attach the second part of the model to the first a significant problem arose -- they did not fit! Together they wrestled with the problem trying to come up with a solution that would preserve the integrity of the model but also conserve the time spent in building it. As they embarked upon the process, thinking critically, and then resolving to an action plan, they were able to adjoin the two base members to fit. This required a major retrofit of the first model base and the expertise of one student who was a sign erector by trade and possessed much of the needed equipment on his truck parked outside. This process also ensured that the mistake would not be repeated and extra precautions were taken from then on to adjoin the model base members prior to their development.

At midterm the group assembled to evaluate their progress and plan for the last half of the class. They seemed satisfied and comfortable with the progress of the model. One student was concerned about the upcoming formal presentation to city officials and community dignitaries. Another student asked if just one of them could be responsible for giving the presentation. They discussed these concerns and decided that since it was a collaborative project that the pattern

should not change for the presentation. This decision presented a fear to some of the students. They were apprehensive about giving a proper oral presentation. One student suggested that they would need some direction on how to give an informative persuasive speech. Another student suggested that they solicit the help of the coordinator of the communications department at SMSU to get instruction on how to effectively do a presentation. Without knowing it, they had realized the importance of proper communication skills in the profession. A session with the communications professor was scheduled at the end of April and their understanding in this area was increased.

The formal presentation to the West Plains Chamber of Commerce and city officials took place May 12, 1998. The students organized the presentation to provide each one of them with the opportunity to present a particular aspect regarding the recommendations.

This progressive service-learning experience became effective as the students were able to connect many aspects of the architectural field into one continuous learning line. The aspects of the project were global, connecting, and continual. The students did not realize the fullness of this aspect until after the formal presentation. One student stated that he “now understands what it means to do an architectural proposal . . . too many things that you just have to experience to know.” Another student stated, “Who would have ever guessed at the beginning that I would know what I know now . . .”

Conclusions

Boyer (1994) indicated that higher education needs to reconsider its mission to be that of educating students for life as responsible citizens. Gregson (1995) stated that “To contribute to democracy, rather than hinder it, (educators) need to employ a pedagogy that is both concrete and transformative.” These four examples revealed that progressive service-learning concepts can be successfully incorporated into construction education and provide concrete/transformational experiences that would direct students toward becoming better prepared members of society. The situations lent themselves ideally to career options. Traditional learning methods are mostly theoretical in nature, not realistic in application, and do not connect the various aspects of the field of study. They fail to allow the time element for students to make mistakes, solve problems, collaborate effectively, receive additional instruction, explore possibilities, and gain the intense intrinsic motivation for learning that naturally comes from giving service. If organized correctly, progressive service-learning can provide a more effective applicable learning environment for students involved in education. Progressive service-learning can be added to, combined with, or replace ineffective traditional learning methods. As with all change, the most difficult step is the first one. These examples represent some ways to begin.

References

Bronfenbrenner, U., (1979). *The ecology of human development: experiments by nature and design*. New York: Cambridge University Press.

- Boyer, E. (1994). *Creating the new American college*. Chronicle of Higher Education, 9.
- Burr, K., L. (2000). *A progressive approach to technology education: one example in metals fundamentals*. [WWW document]. The Technology Teacher.
- Burr, K., L. (1999). Problems, politics, and possibilities of a progressive approach to service learning in a community college: a case study. *Journal of Industrial Teacher Education*, 36 (3).
- Cohen, A., & Brawer, F. (1989). *The American community college*. San Francisco: Josey Bass.
- Dewey, J. (1964). Ethical principles underlying education. In R. Archambault (Ed.), *John Dewey on education: Selected Writings*. 108-140. NY: Random House.
- Gregson, J. (1995). *The school-to-work movement and youth apprenticeship in the U.S.: Education reform and democratic renewal?* *Journal of Industrial teacher Education*, 32 (3).
- Kahne, J., & Westeimer, J. (1996, May). *In the service of what?* Phi Delta Kappan, 593.
- Kinsley, C. (1994). What is community service learning. *Vital speeches*, LXI (2).
- Lauderdale, W. (1981). *Progressive education: lessons from three schools*. Phi Delta Kappa Educational Foundation.
- Oklahoma City Bombing Memorial Advisory Board, (1996).
- Perkins, D., & Miller, J., (1999). Citing online sources. *Why community service and service-learning? Providing rationale and research* [WWW document]. URL <http://www.quest.edu/slarticle2.html>