

# Principles of Therapeutic Riding as a Service-Based Learning Course within an Agricultural Curriculum

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## Abstract

Service-based learning is a rapidly growing form of active teaching in higher education which has been shown to have many positive effects on students. We are employing a service-based learning approach to an elective course within the agricultural curriculum, Principles of Therapeutic Riding. Post-course surveys from four semesters showed students had a greater understanding about disabilities, a better understanding of what families with disabled children face, and felt that they had changed as a result of this course. Reflective comments from university-wide evaluation measurement tools included appreciation for their own health and a desire to continue to take part in this program or a similar program of community service after the course's end. Service-based learning classes can play an important role in the undergraduate student learning experience. This unique type of active learning can potentially have many successful applications within the fields of agricultural sciences in higher education.

## Introduction

Increasing evidence in the literature has pointed to the benefits of service-based learning on the total undergraduate experience. Recently there has been an increasing emphasis among educators to develop service-based learning courses within existing curricula in a university setting (Eyler et al., 1997; Furco, 2001; Giles and Eyler, 1994; Holland, 2001; McCarthy and Tucker, 1999; Prentice and Garcia, 2000). The number of universities and community colleges now offering service-based learning curricula has exploded in recent years in concert with the hundreds of published articles on this subject in the field of higher education. Over 950 college and university presidents are members of the national organization Campus Compact, founded for the

purpose of promoting service-based learning and civic involvement in institutions of higher education. State groups are also in place for the advancement of establishing service courses and partnerships between communities and campuses. The Texas Campus Compact is a consortium of 45 presidents and chancellors of both public and private institutions in the state. Resources available from both the national and state groups include curricula examples, program model information, faculty assistance and program publications.

## Service-Based Learning Definitions and Rationale

Many definitions of service-based learning exist in the field of education (Stanton, 1987), and there is not a universal consensus on what are the essential requirements for this type of pedagogy. Various views have been posed by educators over a span over 25 years (Furco, 1996). One of the earliest definitions was by Sigmon in 1979 in which service learning was characterized as an experiential approach to education founded on reciprocal learning (student and service). Current definitions of service-based learning share the concept that community service is incorporated and highly integrated into the curriculum of the course. Other current common threads in service-based learning definitions share the premise of Sigmon (1979) in that a reciprocal relationship should be developed between the community served and the students involved in the classes. An important point is that the service component strengthens and brings immediate impact to the learning process of the subject, which traditional lecture based courses cannot approximate.

Because of the integrated academic component in this area, service-based learning is distinct from volunteerism (Prentice and Garcia, 2000), co-curricular volunteerism (Fischer, 1998) or intern-

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## Principles of Therapeutic

ships and practicums (Bringle and Hatcher, 1996). An excellent review of the distinctions between volunteerism, community service, internships and service-based learning is outlined by Furco, 1996.

Because of the rapid increase of courses incorporating service into the curriculum, many universities have formed committees or centers to define and facilitate service learning at their institution. The Service Learning and Research Development Center at the University of California at Berkeley has been established for ten years and lists courses in 24 majors. At Texas Tech University, a Service-Based Learning Program has been established within the Provost's Office and the Teaching Learning and Technology Center to assist in the development of service-based learning classes throughout all disciplines.

Few courses in higher education which are classified as service based curriculum, however, involve working with a community segment with physical disabilities as the service component (Burns et al., 1999). In addition, by far, the greatest density of service-based learning courses in higher education across the United States are in the Colleges of Arts and Sciences with a high number of classes with social services themes. Service-based learning applications from any field, however, can be very effectively incorporated into existing classes in a wide range of disciplines. College courses using this pedagogy in the fields of agriculture are not common. To date, there are few reports of service-based learning in agriculture-based curricula despite excellent teaching opportunities to do so.

### Program Structure

At Texas Tech University, a collaborative program has been established to offer training in the field of equine-assisted therapy. Undergraduate classes within the College of Agricultural Sciences and Natural Resources include Animal Science 3309, Principles of Therapeutic Riding; Animal Science 3312, Advanced Therapeutic Riding; Animal Science 4001, Special Problems in Equine Assisted Therapy and Animal Science 4000, Internships in Equine-Assisted Therapy. In the introductory class, Principles of Therapeutic Riding, students are given a chance to participate in service-based learning course with disabled children while in a structured university situation.

This service-based class works within the existing framework of the University Therapeutic Riding Center (UTRC), which is a joint program developed in 1998 between Texas Tech University College of Agriculture and Natural Resources and the University Medical Center, which offers hippotherapy and therapeutic riding lessons to children with a wide range of disabilities in Lubbock and surrounding areas. This partnership addresses the tremendous life challenges of disabled children. The UTRC serves children with disabilities from

Lubbock and surrounding communities to help them reach their highest potential and to improve their quality of life. Most of the children are on Medicaid/Medicare and would not otherwise have access to hippotherapy. Most of the children in the program (64%) are from minority backgrounds and/or from lower economic brackets (76%) and thus lack private insurance, which precludes these children from receiving services elsewhere.

### Summary of Therapeutic Riding Benefits to Children

A large population of children exists with a wide variety of disabilities including physical, cognitive, communicative, behavioral, or a combination of these. To augment traditional physical, occupational and speech therapy, hippotherapy (physical, occupational or speech therapy with the use of a horse) is used to produce significant improvements in the children's conditions, often surpassing the expectations of physicians and other health care providers. The three-dimensional movement produced by the horse provides biofeedback for quality movement closely simulating the human gait for the rider (Biery, 1985). In particular, children reaching a plateau in response to traditional therapy reach significantly higher levels of life skills when participating in hippotherapy.

Students are taught that the mission of the program is to create a strong foundation in these children and achieve the highest level possible in life skills through equine assisted therapy. In this course, students are taught about disabilities, including the benefits and contraindications of equine assisted therapy. Undergraduate students learn about work with children with a wide range of pediatric physical and developmental disorders.

### Structure of Class

Principles of Therapeutic Riding was first offered in 1998. It is now taught each semester and both summer sessions and is open to students from all majors. To date, 157 students from 27 majors have taken the class. Students are able to benefit from each other in their groups because of their different backgrounds and experience. Students also work with pediatric physical, occupational and speech therapists in weekly labs. The structure of the class involves a lecture component and a weekly two-hour lab session, which are the hands-on hippotherapy sessions with the disabled children. Within these labs, teams of three students are assigned to work with one disabled child for the entire semester as they ride for their one-hour weekly therapy session (15 total sessions per semester). These students serve as horse leaders and side-walkers (one student on each side of the horse securing the child on the horse). Their roles include acting for the children to ensure safety and helping with the implementation of therapy.

The student groups present weekly progress reports on their child during the lecture portion of the class and interact with the professor in these periods as well as closely interact with each other during the therapy sessions. Additionally, students are actively involved in charting the progress of each child throughout the semester. During the course of the semester, each student individually develops a 10-page lesson plan for their assigned child. After approval of the plan by both the instructor and the therapists, the student will teach this plan to their child at the end of the semester in a lab session under supervision. The implementation of this independently-designed plan and the objective evaluation of the responses of the child fulfills an important requirement for the course.

## Methods

### Evaluation methods

Two methods were used to evaluate the impact of this experience on the undergraduates enrolled in this class. Both means of evaluation were anonymous and were available to the professor only after grades were submitted to the registrar to encourage candidness.

An instructor-designed post-course questionnaire (Table 1) was administered to all students (n=90) from four semesters from 2001-2003. This questionnaire presented questions probing student attitudes towards the course and towards disabilities.

A standard university-wide course evaluation form was administered at the end of the course for seven semesters (including the four semesters above). A comments section of this measurement tool summarized voluntary reflection towards the overall course. Students were encouraged to evaluate the effects of the course, children, and overall experience of participating in this class.

## Results

The study focused on an analysis of undergraduate student background, attitudes, and reflections after taking part in the above-described service-based learning course. Demographic analyses of the undergraduate students enrolled in this elective class over four semesters were compiled. Students were predominantly female (90.8 % female vs 9.2 % male), and the representing class status was 20.4% Seniors, 33.7% Juniors, 30.6% Sophomores and 15.3% Freshman. The class represented a wide range of university majors (n=27). Of these, 26.5% were in Agricultural Sciences and Natural Resources, 42.9% were in the fields of Pre-Allied Health and 30.6% were from other majors.

During the measurement periods, the disabilities of the children treated during the class included a wide variety of physical and cognitive disorders. Children with physical and genetic disorders included those with Cerebral Palsy, Schizencephaly, Down Syndrome, Angelman's Syndrome, Sacral Agenesis and Velo-cardio Facial Syndrome. Children with cognitive disorders included Developmental Delay, Autism, and Pervasive Developmental Disease. Children ranged in the ages of 3 to 14 years of age.

### Post-course Survey

The results of the instructor-designed post-course questionnaire are presented in Table 1. This survey was administered to all students (n=90) from four semesters from 2001-2003. This questionnaire presented questions probing student attitudes towards the course and towards disabilities. Clearly, service-based learning provides an excellent opportunity for students to be more involved and interested in the subject matter. As seen in Table 1, 84% of the students felt that they were changed by taking this course. Also, it was striking that 98.9% of the students felt that they had a

better understanding of what children with disabilities face and 100% of the students felt that they had a better understanding of what families with children with disabilities face. Table 2 reflects the amount of experience that students reported in either working with horses or therapy settings. A wide range of experience is evident in this class.

**Table 1. Responses of students related to personal background and attitudes concerning service learning, people with disabilities, and horses from an instructor-designed post-course survey administered for 4 semesters from 2001-2003.**

Question <sup>a</sup>	Yes	No	% Yes
1. Have you ever taken a service learning course before?	19	71	21.1
2. Do you routinely volunteer in your community?	53	37	58.9
3. Have you worked closely with someone with disabilities before this course?	68	22	75.6
4. Are you apprehensive about working with disabled individuals?	17	73	18.9
5. Are you apprehensive about working with horses?	20	70	22.2
6. Have you worked with horses before this course?	67	23	74.4
7. Have you ever worked closely with children?	84	6	93.3
8. Has your general outlook changed as a result of taking this course?	76	14	84.4
9. Do you now have a better understanding of what children with disabilities face in their daily life?	89	1	98.9
10. Do you now have a better understanding of what families of children with disabilities face in their daily life?	90	0	100.0
11. Are you majoring in pre-physical, pre-occupational, or pre-speech therapy?	45	44	50.6
12. Would you like to someday continue with hippotherapy or a related service? <sup>b</sup>	74	4	82.2
13. Do you believe, as a result of this experience, you are better able to relate to persons with disabilities? <sup>c</sup>	87	0	96.7

<sup>a</sup>n = 90. <sup>b</sup>12 participants answered "maybe" to this question. <sup>c</sup>3 participants answered "maybe" to this question.



**Table 2. Years of experience working with the disabled and with horses reported by students of 4 semesters from 2001-2003.**

Experience	0 Years	1-2 Years	3-4 Years	4-5 Years	> 6 Years
Working with the Disabled	22 24.4%	37 41.1%	15 16.7%	6 6.7%	10 11.1%
Working with Horses	23 25.5%	26 28.9%	5 5.6%	5 5.6%	31 34.4%

**Reflections from University-wide Measurement Instrument**

Reflections in these forms had many common threads. Overall themes in these reflective comments included appreciation for their own health, appreciation of what these children face on a daily basis, a desire to continue to take part in this program or a similar program after the course's end. Many stated that they felt that they had made a real difference in the lives of these children. Several students remarked that the courage and hard work observed in these children was an inspiration in their own lives. Other common threads were a commitment to continue working in this or a similar field. Several students expressed an intention to change majors or career goals to work in this area.

**Discussion**

Our study's finding that the students acquire a better understanding of the children and their disabilities is in agreement with reports in the literature. Giles and Eycler (1994) reported a greater understanding of the underprivileged community by students involved in service-based learning. Because of the flexibility and of this style of course, many different types of learning styles can be accommodated (Prentice and Garcia, 2000).

Documented effects of service-based learning on college participants include career exploration often resulting in a change of career path (Prentice and Garcia, 2000). We have seen this trend in our students, many who have either changed majors or expressed intent to become certified riding instructors, therapists and other professionals involved in this field. Other benefits to the students include improved human relation skills and enhanced self concepts (Prentice and Garcia, 2000). Increased confidence in working with these disabled children was a common thread in many of the reflective comments of our students as well. We have recently added a weekly-required journal assignment to augment reflection on the course and to document progression throughout the semester. Our students were highly motivated in the lab sessions and to date, 22 have decided to continue their involvement by taking advanced courses. A newly established graduate program is now offered in Equine-Assisted Therapy.

By creating our own service organization within the university (UTRC), we have benefited from great

deal of flexibility in the course design, the timing of sessions, and in the definition of the roles and duties of the students. By having the therapists as part of our team, we are able to involve them in teaching lectures and giving a

great deal of feedback to the students within the laboratory sessions. We feel this is an extremely important aspect of the learning experience.

This flexibility is not always present when courses are designed around existing, independent community organizations. Drawbacks of such in-house community service programs, however, include the great deal of time and staff required for administration, writing grants for support and program accreditation. Liability issues are also if utmost importance, although this is an important factor in course development with independent community service organizations. An important planning portion to any service-based course design needs to include a careful selection of community partners and the development of excellent communication and defined guidelines between the university and the community organization. In addition, to provide continuous therapy sessions for these children between semesters and during semester breaks, we have commenced a community volunteer program. This permits us to maintain the therapy activity for these children, which is extremely important for their progress and development. This also involves the community with our program, which is an asset in fundraising and community awareness.

Drawbacks to designing and implanting a service-based learning course at the university level include factors such as the time these courses take to set up and teach. In many universities, there is not a strong framework from within which professors can pattern classes using this type of pedagogy. This factor appears to be improving as many universities have a service-based learning section within their teaching academies or similar teaching centers. In addition, classes may be viewed by some colleagues and administration as "volunteer opportunities" rather than a fully integrated curriculum using service to increase the level of retention, understanding and appreciation of the core subject matter. As more studies are designed to evaluate the benefits of service-based learning courses in understanding the respective subject areas more fully, these concepts should disappear. In addition, as universities provide stronger frameworks and patterns for service-based learning curricula, more professors may envision a role of service in varied disciplines including Agricultural Sciences.

## Summary

Service-based learning classes can play an important role in the undergraduate student learning experience. We believe that by fully integrating service and curriculum, the learning of the subject matter is greatly enhanced. Working with disabled children in an academic setting has significant positive effects on students. Many of these students plan to make a career of therapeutic riding, thus we feel that by offering this program, many children across the United States may be positively impacted as a result of our graduates. Because service-based learning, by its design, requires and thus fosters a close interaction with the professor of the class, the learning experience for the undergraduate student is further strengthened. Based on our findings, we believe that exploration of service-based curricula will be advantageous to instructors in the field of agriculture paralleling to the success this curricula has been shown in the liberal arts settings.

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