

**FROM NOVOSIBIRSK RUSSIA TO TEXAS: A ROLE FOR AGRICULTURAL AND  
EXTENSION EDUCATION IN DEVELOPING AND DELIVERING PROGRAMS  
PROMOTING THE USE OF DRAFT ANIMAL POWER**

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**Abstract**

*The purpose of this study was to delineate contextual applications in agricultural education used for acquiring the knowledge and skills necessary for the operation of contemporary businesses supporting or supported by the use of draft animal power. The researcher sought to determine if the reacquisition of knowledge and skills was driven in whole or in part by historical, cultural, or geographical factors. Another objective was to determine whether the methods used by the study participants in their reacquisition of the knowledge and skills necessary for success could be used as a role model for how other rural industries can start and flourish. The study found that those who have chosen to learn relic technologies and apply the solutions they give have been rewarded with satisfying work environments and communities. The skills learned are grounded in the past and have been improved by present technologies. The skill learning and training techniques were the same regardless of the location of the participants. The resources for this revival of an industry were not generated through the wisdom, leadership, or instruction provided by institutions of higher learning or their Cooperative Extension services.*

**Introduction**

Agricultural and Extension education has a long history of affiliation with draft animal power, ancillary industries for production agriculture, and international agriculture (Simalenga & Jongisa, 2000; Craske, Davis, & Moss, 1999). Agricultural education has been defined as the discipline arising from the intersection of the knowledge bases of the hard sciences such as animal science, crop science, and soil science, with the social sciences of education, sociology, and psychology (McLean, 1997). The resulting blend of information is often influenced by history and the geographic location/distribution of the elements being studied. These subjects may be offered on the platform of human resource development, acquired formally or informally, taught either pedagogically or andragogically, or learned in a self-directed fashion.

The knowledge gleaned from this study may enable educators in Extension to apply the methods used by the subjects in other venues of agricultural education. The knowledge derived from this study may benefit rural communities by showing a pathway towards employment for residents, expanded tax bases, and the stabilization of population levels. The exporting of the

reacquired knowledge base back to the countries whose citizens originally settled and brought the draft animal technology and skills to the United States would suggest the first completion of an agricultural cycle that started 500 years ago.

### **Purpose and Objectives**

The purpose of this study was to delineate contextual applications in agricultural and Extension education used for acquiring the competencies necessary for the operation of contemporary businesses supporting the use of draft animal power. The researcher sought to demonstrate that the reacquisition of these competencies is in part historically, culturally, and geographically driven.

### **Methods**

This was a qualitative study of 31 purposively selected respondents drawn from case studies conducted in Novosibirsk Russia, Indiana, and Texas. The research presented herein is a part of a larger study looking at the role of andragogy and self-directed learning in the draft horse industry (Hynes, 2005). The research in Novosibirsk Russia was supported by ACIDI/VOCA. Unstructured and semi-structured interviews along with document analysis and long-term observations were used. This qualitative study followed acceptable procedures and applied trustworthiness quality criteria set forth by Lincoln and Guba (1985), Erlandson, Harris, Skipper, and Allen (1993), and Merriam (1998). Both formal and informal member checks were used. Trustworthiness was assured by credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). An audit trail was maintained (Strauss & Corbin, 1998). Internal validity was addressed using Merriam's (1998) six strategies for enhancing validity.

The researcher used qualitative methods, in particular, unstructured and semi-structured interviews, making the necessary adjustments to the questions as the interviews proceeded. The researcher initially chose a series of questions he believed would be perceived by the respondents as benign yet providing an entrance into their learning styles and a window into sources of their business success. Adjustments to the questions in the interviews were predicated on the responses of the participants. The interviewer did not pass judgment on the answers to his questions, and the respondents were expected to answer with thought and veracity.

Participation by the respondents in this study was voluntary. The answers from the interviews were coded and kept confidential. Throughout the study the responses were written down and recorded during the interviews. When the opportunity presented itself, semi-structured interviews were conducted. The interviewer prepared and would refer to a set of questions throughout the interview. With the semi-structured interviews, the interviewer was prepared to delve deeply into the respondent's answers to gain further information.

On several occasions the participants would be asked an opening question and they would start talking and would basically continue to talk without any prompting or questions for the rest of the interview. These interviews became unstructured interviews. Unstructured interviews do not have a set schedule of questions. The interviewer asks questions and, as the answers flow, adjusts his questions and focuses on the responses received to tweak out the most information he can from his respondent.

In order to determine where and from whom the data would be collected, the inquiry's focus was provisionally defined (Lincoln & Guba, 1985). The focus of this study required using participants who were successful in their business enterprises. This purposive sampling of convenient samples allowed the researcher to develop and expand the emerging theories into

case studies. Snowball sampling furthered the process by enabling the researcher to interview several reticent individuals attending the Horse Progress Days in Indiana who, for personal or business reasons, were reluctant to talk to strangers (Babbie, 1992). Thus the researcher would ask people who were interviewed to whom else he should be talking.

The constant comparative method of analysis (Glaser & Strauss 1967; Lincoln & Guba 1985; Merriam, 1998) was chosen for this study. In constant comparative method of analysis, units of information are compared with one another. The researcher sought to find similarities and differences amongst and between the units of information. There are four stages to the constant comparative method: (1) compare the various occurrences from each category; (2) meld the categories and their components; (3) determine the theory; (4) write the theory. This allowed the researcher throughout the study to review and analyze the responses to the questions asked of the participants. The researcher was able to refocus and reformat his questions as dictated by the flow of the interview, thereby enabling him to validate the responses he received and write his case studies.

Cross case analysis was used to analyze the case studies. Themes from the cases were identified and listed. Themes common to all three case studies (Novosibirsk, Northern Indiana, and East Texas) were determined. Themes that were common to two of the case studies were ascertained and themes found only in one case study were shown as well.

### **Major Findings: Common Themes Found in All Three Case Studies**

Many themes emerged in this study; some are intertwined with one another. Others seem to stand alone with little connection to the rest of the building blocks of this research. The following themes are found throughout the study. They were responsible for the primary renewal and engagement of individuals in the draft horse industry revival. They are not listed in any particular order. This is deliberate. The scope of the study did not include a method to determine which theme or series of themes influenced the others.

Seven themes were found in all three case studies: 1) Most of the respondents are in middle age. 2) Geography plays a key role. 3) Almost every respondent exhibited self-directed learning and andragogy. 4) Defined market niches for the respondents business was tied to the respondent's philosophy of life and knowledge of self. 5) The respondents, with few exceptions, engaged in short, intermediate, and long-term planning. 6) Almost all of the businesses are sustainable agribusinesses. 7) Many respondents have limited formal education.

*Most of the respondents are in middle age.* Because successful entrepreneurs in the draft horse industry were selected for participation in the study, it makes sense they were middle aged for to achieve success in their chosen fields takes time. This is certainly true in the Amish communities. For non-Amish participants, the draft horse business was their second, third, or fourth career. For those participants in this study, the likelihood of them taking the time and granting the researcher an interview at their homes and places of business would be less likely if they were not successful. The ages, number of careers, and the preferred methods of knowledge acquisition by the participants would suggest that andragogy and self-directed learning will remain an important part of their learning styles into the future (Verbitskaia, 2004).

*Geography plays a key role.* The draft horse industries' geographic ties to particular regions have, as their roots, different reasons. In the United States, it appears to be culturally, socially, economically, and environmentally driven. In Novosibirsk Russia, environment and infrastructure play key roles. This study demonstrates unequivocally that geography has played a role in the resurgence of the draft horse industry. The theme was often influenced by the history

and the geographic location/distribution of the units of information being studied (Doubleday, Mackenzie, Fiana & Dalby, 2004). The states that were listed in the 1900 U.S. Census as the top ten states in 1900 in terms of ancillary businesses supporting the draft horse industry (U.S. Census Reports, 1900b), and the states that were listed as the top ten states in terms of draft animals (U.S. Census Reports, 1900a), are the same states listed as the top ten states in their respective categories in 2003 (Miller, 2004; Christian, 2004). The rebirth of the industry took place in the collar states of Wisconsin, Ohio, Pennsylvania, and Indiana, along with outlying Iowa (Telleen, 1989). The business has spread across the width and the breadth of the United States, but not equally and certainly not in all states.

In regions where historically there was a large presence of draft horse businesses and activities, businesses and activities have redeveloped 100 years later. Even more intriguing is why some parts of the country have not participated in this resurgence. The opportunity to adopt and develop similar rural growth exists in many states that have not participated in this rebirth. These phenomena are consistent with the findings of Jack and Anderson (2002), who stated a theoretical construct of structuration calls for the future to be anchored in the past.

Direct geographical connections (residences, the purchasing of supplies, horses, equipment, or information) with the collar states around which the draft horse revival took place were found in the interviews with 23 of the 31 respondents. Several interview participants suggested culture (a geographical phenomenon) as the reason for adoption/re-adoption of draft animal power. One respondent tied the readopting of draft animal power and the resulting growth of the ancillary industries to those regions where people grew corn – a geographically determined agricultural practice.

Almost every respondent exhibited self-directed learning and andragogy. In keeping with Knowles's (1998) definition of psychological adulthood (assuming responsibility for managing their own lives), the participants were for the most part self-employed, learned in an andragogical fashion, and were self-directed.

Self-directed learning has and continues to be the leading learning paradigm for the new participants as well as the veterans in the draft horse industry. Leaders in established communities that rely at least partially on draft animal power promoted the use of self-directed learning and andragogy. Students, or new learners, acquire skills by observing, practicing, and asking questions of experts during the training process. The experts/participants' primary sources of information were trade periodicals, the Internet, and word of mouth.

Respondents, including Amish participants, noted the Internet as a source of information. The researcher has carried on active correspondence with participants from Siberia via the Internet since his site visit. Most of the participants in East Texas use the Internet professionally and personally.

Those who were self directed made a variety of comments that supported their learning techniques. The following are some samples of those responses. Respondent I-1 answered a question concerning how he acquired so much knowledge about registered horses and farming equipment by replying that he had trained himself by attending horse sales, seeking the advice of successful breeders. He has never drawn out plans for new equipment; rather he visualizes the plans in his mind and perhaps will draw them out in the dirt. He displayed his self-directedness when he first started to alter tractor-drawn hay equipment in order that it might be used with horses.

Another clear example was Respondent I-2 who noted that a need for more wood shavings existed in the buying public. He sought out owners of wood shavings manufacturing

equipment. He learned how to operate the equipment (andragogy) and how to set it up at his work site. He has grown his business from a front yard operation to a soon-to-be interstate enterprise.

Respondent I-3 started manufacturing animal drawn equipment in the 1970's. He noted he learned to market his products through observation. He reads a lot because he enjoys learning. With only an eighth grade education, he has taught himself how to design, manufacture, and market highly sophisticated equipment. He markets his products worldwide. He manufactures equipment for horses, mules, and oxen (used by members of Hare Krishna). He believes in training the young "for us, with us, and amongst us" – all education done on the job vocationally. He strongly believes the young should be taught while they are young and paid well to do so.

Respondent I-4 taught himself through reading. He practices the science of farming, the art of writing, and the business of publishing. I-4's philosophy is "how we might live better than we are." He considers his own library a reference source for use by such diverse organizations as the John Deere library and the United Nations Food Committee who have used his reference materials for historical information. His knowledge and resources are the "germ plasma" for the draft horse industry. Extending the "shelf-life of our knowledge by making information accessible" is an ongoing goal. He views his work as the "extension for the draft horse industry and beyond that a protector of relic technology."

Respondent I-5 develops and manufactures high tech farm implements and hydraulic manifold valves. He is totally self-directed in his manufacturing business and has an ongoing andragogical approach to learning how to work with the human relations aspect of his employees as well as how to handle company personnel problems.

Respondent I-7 is president of a 501c3 corporation whose purpose is to "preserve, study, and exchange low-capital technologies that increase the sustainability and productivity of rural peoples." For over 30 years he has taught himself the skills and techniques he now passes on to others. I-7's business is running a training center, with emphasis on training rural youth from third world countries, in use of draft power and such related skills as carpentry and blacksmithing. Throughout his life, I-7 has changed, altered, and refined what he has learned. I-7 believes that while we are often driven by technology, it is very important to remember that people's mind is the end product. His philosophy of life includes inspiring or creating an attitude of experimentation. He wants the process of learning to be the learners so they are able to decide which approach is best for them - "Take appropriate technology, appropriate it, and make it work better until it becomes yours."

Respondent I-16 used self-directed learning to acquire the knowledge necessary for earning a living using the draft horses and mules he owns. He learned the protocol of military funerals from a 2<sup>nd</sup> Lieutenant at Arlington National Cemetery. He spent a week with him. The uniform he wears is that of an 1860 Senior Master Sergeant's Cavalry Uniform. It is the only uniform that can be worn officially while driving a caisson for the five branches of the U.S. military. His self-directed learning has enabled him to develop a prosperous carriage service, a civilian funeral service, and regular roles in Hollywood productions requiring the use of draft animals. He will travel "as far as the money will go."

I-21 sold his construction company, specializing in insulation work, six years ago to concentrate on his draft horse business. His major sources of information for his business are reading the trade journals and various state draft horse associations. He learned his business by observation and "doing." I-21 is proud to have attended Texas Tech and "escaped without any education."

Respondent I-22 taught himself how to operate a carriage service and market it to the public for weddings, funerals, and corporate and private parties. He operates a draft horse school, teaching students wanting to learn how to drive draft horses and mules in an andragogical fashion by using a fairly sophisticated hands-on approach throughout the process.

I-26, a respondent in Siberia, personified self-directed learning. Though reared in the Soviet Collective Farm system, he has -- on his own without formal education -- learned modern methods of cash flow, management, and marketing. He has sought to create new ways of building his farm operation through emphasis on producing food for direct human consumption rather than the traditional animal feed production of his region. He markets all of his horses for the sausage production export market in Kazakhstan.

Another Siberian respondent, I-27, has used self-directed learning to develop and grow his racetrack. He set out without formal training to produce and market a quarterly periodical publicizing and promoting the primary breed of horse at his track -- the Orlov trotter. He learned how to run a horse-boarding program at his stable by reading and speaking with other track and stable owners.

Defined market niches for their business were tied to the respondent's philosophy of life and knowledge of self. All of the participants worked in very defined market niches. They had a clear understanding of where they fit in to the market place. All were philosophical in describing their life and lifestyles. This theme stresses the importance of needing to understand ones' self to become successful.

The participants were quite comfortable with their knowledge of their business and themselves. People who chose to begin or continue using draft horses as their power source on farms, ranches, or as a focal point of their rural non-farm businesses did so out of conviction that their way made sense environmentally, economically, socially, and personally. As a group, this study found few participants who had been formally educated beyond high school, yet they often seemed very sensitive to society-at-large and the role they saw themselves playing in it.

Most of the respondents engaged in short, intermediate, and long-term planning. This study's respondents are comprised of a mix of people: they are from two continents, they have multicultural backgrounds, and many have minimal formal education. Yet most of them are engaged in short, intermediate, and long term planning. This implies that a fertile business and life style planning attitude may be found among people who choose to use animal powered equipment in their livelihood.

*Almost all of the businesses are sustainable agribusinesses.* Sustainable agribusinesses mean the environment is not negatively impacted by the activity of these business people. The evident environmental stewardship of the respondents should be used as a positive example for all our industries.

Sustainable agriculture is important because it is a vital business component practiced by forward-thinking entrepreneurs (Geraci, 2004). Williams (2000) postulated sustainable agriculture is more philosophy concerned with the economic, social, and environmental benefits than a knowledge base of suggested farming practices. The draft horse industry has amply demonstrated alternative and sustainable ways to earn a living (in a farm related manner) without actually farming in rural America. With its low input costs, often in a mixed power operation, it has demonstrated an alternative way to farm without the strangulation of debt.

Respondent I-2 practiced a form of sustainable agriculture by using Number 2&3 logs in his wood shavings business. He would buy wood shavings as byproducts of the local recreational vehicle manufacturers thus putting to good use material that might otherwise be burned. The heat

generated by burning the dust from his drying tower is burned off to provide power to several nearby residences and shops.

Respondent I-9 has run a successful sustainable agribusiness for 30 plus years. While a practicing veterinarian for some 20 years, he developed a horse consulting business that grew to the point where he transitioned out of veterinary medicine altogether. He works with people advising them on the topics as far reaching as IRS programs for horse owners, horse care for absentee landowners, and breaking and training of draft and riding horses. He produces and markets training videos for horse owners as well as conducting several draft horse training schools for horse owners.

Respondent I-18 was a farrier, horse trainer, and carriage service owner-operator. Formerly a computer programmer, he started working with draft horses several years ago. His farrier work was done exclusively with draft horses. He will show horses for owners who do not have the time, skill, or inclination to do the actual work. He has developed his carriage business to the point where the demand necessitated acquiring a tractor-trailer to haul his horses and equipment

Respondents I-19 and I-20 are husband and wife who work as professional horse people for a major breeder of draft horses. They spend their time showing on one of the major national show circuits as well as breeding, raising, and breaking horses. Their work has been successful to the point that they are able to own and maintain their own farm some 1200 miles from where they live and work.

Respondent I-22 earns his living using heavy horses to drive wedding parties, conduct corporate and private parties, and pull hearses at funerals. He works at a historical/tourist center offering carriage rides for a fee. He stands a jack for public service. He will train horses for owners but only with the proviso that they receive training from him as well.

Respondent I-27 owned a racetrack in Novosibirsk. He has worked hard to build a sustainable agribusiness in Central Siberia focusing on the use of horses to accomplish his goals. He has built both his facilities and his market. His racetrack is a multipurpose facility. He runs trotters (Orlov) and a few pacers (American).

He constructed two indoor riding facilities that are used by students for lessons in dressage and hunter/jumper classes. Most of these students are the children of wealthy parents who miss the rural life with the attendant horses. There is a carriage service. I-27 has programs in place for using horses as a form of therapy for emotionally disturbed children. There is a club for college students. All of the horse owners who stable their horses at the track stalls buy their hay from the local farms surrounding the track. I-27 has started an ecotourism program to take citizens and, he hopes tourists, to the surrounding countryside.

Many respondents have limited formal education. The general lack of formal education among the respondents was part cultural (the Amish) and part choice (many of the other respondents). For many years the researcher has observed people who choose a life style of manual work are frequently not formally educated.

### **Conclusions and Implications for Agricultural Education and Extension**

On a macro level, agricultural education is the subject of this study. It has a strong history of affiliation with draft animal power, ancillary industries for production agriculture, and international agriculture (Simalenga & Jongisa, 2000; Craske, Davis, & Moss, 1999). The contextual applications of agricultural communications, informal interactions with international agricultural leaders, and the processes of securing adoption and transfer of technology all

emerged as mediums for the development of knowledge and skills by the participants in this study. Participants did not seek knowledge and skills from Extension education or university resources. The participants particularly sought “agricultural education” in the ancillary businesses supporting the draft horse industry such as knowledge, business expertise, manufacturing skills, and training in risk taking. These knowledges and skills were primarily acquired through andragogy and self-directed learning, rather than through formal, more traditional educational methods.

This study has demonstrated that there is a way to learn how to succeed in rural environments. Those who have chosen to learn relic technologies and apply the solutions they give have been rewarded with satisfying work environments and communities. The skills learned are grounded in the past and have been improved by present technologies. The skill learning and training techniques were the same regardless of the location of the participants. The resources for this revival of an industry were not generated through the wisdom, leadership, or instruction provided by institutions of higher learning or their Cooperative Extension services.

It is important to determine which theme(s) responsible for the renewal process of the draft horse industry come first. Future research is needed to determine which additional roles geography has played in sustainable rural entrepreneurship and innovation. Are the revival and renewal of rural communities tied to the history and locale of the targeted community? Is the history and economic rebirth of a community or even a society predicated on geography?

There is a connection between sustainable agriculture, the Internet, and the promotion and use of relic technologies. Why not explore bringing this connection to the universities and Extension offices here and abroad?

A solution to overcoming the loss of rural jobs and population and their resulting tax bases is developing sustainable communities whose economic vitality is not necessarily predicated on the markets hundreds or thousands of miles away. Rather it is incumbent on us as researchers to promote learning and training paradigms whose outcomes provide logical, workable, alternative economic platforms that can be self-sustaining on a local level. Self-directed learning and andragogy have worked in reviving the ancillary businesses in the draft horse industry in rural America. These learning and training techniques should be utilized for the furtherance of additional economic growth in all parts of the country.

That almost all respondents were andragogical and self-directed in their teaching and learning bodes well for them. It does seem to limit the potential impact of universities and Extension roles in this industry. The use of self-directed learning and andragogical methods of training among the study participants implies that these methods of learning hopefully can be used to help rural communities revive. We should seek to apply these methods to topics and subjects other than the draft horse industry. If these techniques work for as complicated a subject as this industry, why should they not be used to solve other problems in rural communities?

The seven themes presented in this paper are found in a variety of cultures, geographic locations, and economic endeavors. A common theme among all of the participants of the this study is the importance of an awareness of oneself and the role that that plays in forming long-term lifestyles not only for the individual but also the community in which they live. These themes work and it is recommended that universities and Extension Departments redouble their efforts to include this type of learning paradigm in all of their programs.

Leger-Jarniou (2001) called for entrepreneurial teaching programs at universities to focus on changing students’ mindsets and attitudes toward entrepreneurial activities and to develop an orientation to engaging in the process. The participants of this study acquired

expertise in sustainable agriculture and entrepreneurship primarily through andragogical means and/or self-directed learning rather than through formal educational institutions. The participants in this study live and work in rural regions or small towns and communities. They choose to sustain themselves in an economically entrepreneurial fashion and are self-employed, utilizing sustainable agriculture without resorting to traditional employment in factories or mainstream agricultural pursuits. Staged Self-Directed Learning (Grow, 1991) in the draft horse business and its attendant supporting industries provided the explanation for the structure and framework within which the participants were freed to teach themselves.

Geography was a key theme in this study. The implications of this theme are the continuing economic and cultural ties to the historical geographical locus of the draft horse industry by the new draft horse industry. The implications for those wishing to study these phenomena include the need to determine why the economics/culture of the industry continues to flourish in these locales. The success of some of these businesses would suggest a need for scholarly research investigating how to emulate these successes in other rural areas of the country and the world. It is further recommended to seek out other economic phenomena and ascertain if parallel success stories exist. Perhaps there are successful determining factors that should be explored.

Finding similarities across three case studies whereby participants differed by culture, geography, language, occupation, etc. strengthens the trustworthiness of findings and applicability of recommendations. The researchers suggest that departments of agricultural and Extension education, along with the Extension Services they support, rethink their traditional role of supporting and providing resources for agricultural enterprises and begin approaching entrepreneurs, such as those found in the draft horse community, for ideas and solutions to promote rural development.

Gamon, Harrold, and Creswell (1994) called for new educational platforms and techniques to address the needs for disseminating information on sustainable agriculture. The draft horse industry has amply demonstrated alternative and sustainable ways to earn a living (in a farm related manner) without actually farming in rural America. With its low input costs, often in a mixed power operation, it has also demonstrated an alternative way to farm without the strangulation of debt. The implications for rural America and society as a whole could be large if the concept were more freely offered to the American public as an alternative to existing rural opportunities for employment. The recommendation is for universities and Extension services to learn about these businesses and then offer to the public how to duplicate their successes.

Among the implications of these themes is that success is very much possible without traditional learning methods of the classroom. The themes discussed in this paper are found in a variety of cultures, geographic locations, and economic endeavors. They have been successful for this business and it is recommended that universities and Extension Departments redouble their efforts to include these types of learning paradigms in all of their programs. Additionally, it is recommended that educators focus on enabling learners to understand themselves and develop personal philosophies as a part of any curriculum.

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