

Sustaining Experiential Education in a University Agriculture Program Using Alternative Funding Sources and Strategic Planning

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Abstract

Post-secondary education funding is multifaceted and varies greatly in the American education system. The desire to include experiential education in collegiate curriculums can be limited by a variety of factors including inefficient management practices and limitations to traditional post-secondary education funding. This paper explores how an equine program at a midsized, university in Kentucky utilized management changes combined with nontraditional funding resources to integrate experiential learning into its curriculum. The intent was to identify management practices and funding sources used by the program. Transcripts from faculty interviews highlighted five themes influencing the program during academic years 2010-2015: improve management procedures, increase herd value, decrease expenses, improve department collaboration, and utilize a more flexible management style. A review of financial records identified four funding sources contributing to experiential learning: two traditional sources (legislative and course fees), and two non-traditional sources (endowments, grants, and sponsorships, and self-generating funds). Findings in this study provide insight to changes in management and alternative funding sources that other equine or agricultural programs could review for potential revenue streams.

Introduction

Murray State University (MSU) is one of eight colleges or universities with an equine program located in Kentucky. The state boasts a \$3 billion-dollar equine industry (Kentucky Horse Council, 2013) and is home to the Kentucky Horse Park, Churchill Downs Racetrack, and Keeneland sales complex. Murray State's Equine program draws regional, national, and international students attracted by the state's large equine industry. In contrast to the Kentucky equine industry, the state

has at least a 16-year history of budget deficits (Fiscal Budgets, 2018; McNichol and Waxman, 2017). From 2008 to 2015, funding to the Kentucky education system was cut by 32%. Many states faced education funding shortfalls during the Great Recession, but only six states cut more than 32% to per-student funding from pre-2008 levels (Center on Budget and Policy Priorities, 2016). Those shortfalls continued to impact various programs even after the Great Recession. In 2015, the state of Kentucky had the largest annual cut in per-student funding of any state and was spending almost \$3,000 less per student than it did in 2008 (Mitchell and Leachman, 2015). The following year, Kentucky's Governor cut post-secondary education funding to balance the state's budget, making 2016 the third consecutive year of reduced funding for post-secondary education. As an early adopter of performance-based funding (PBF), Kentucky passed SB153 in 2017 to continue dispersing funding to Universities using PBF 2.0 model. The decision provided an outcomes-based formula for recipients based on completion-driven indicators of student success. Concerned about reduced funding driven by a PBF model, an agricultural program at a midsized, public university was presented with added expectations to enhance learning for students.

Murray State University places emphasis on experiential learning (EL) in its classrooms. In 2014, MSU instated a Quality Enhancement Plan (QEP) to focus on the importance of experiential learning at its institution. The plan was titled Bring Learning to Life, with the goal of advancing EL objectives. The QEP included the importance of integrating real-world learning environments, professional development, problem solving, critical thinking, and integrative learning into the University setting (Murray State University, 2014). Experiential learning was already occurring in the MSU

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Equine program: riding classes and equine science courses used a University-owned herd. Notably, typical variable expenses covered by the Equine program budget include hay and grain; routine and unexpected medical care; farrier work and dental care; vaccinations; and tack and equipment. The program is not responsible for electricity or water costs, building construction or maintenance, or infrastructure improvements. University funding pays for these expenses, and they do not influence the EL opportunities made possible by the University herd. Experiential learning methodology varies widely between academic programs, and there is no current research placing a generalized cost on implementing EL into traditional courses. This cost ambiguity may negatively influence educators' impression of its value. Amis and Aïssaoui's (2013) study of receptiveness to change in academic institutions emphasized that uncertainty generates resistance. To further advance QEP initiatives without requiring additional legislative funding, MSU equine faculty needed to identify their program's funding methods. Additionally, they believed management changes could improve budget concerns and expand EL. This paper evaluates how the Equine program at MSU financed and managed EL during a period of statewide cuts to tertiary education.

Methods

A historical review of management and budget records studied academic years 2010 to 2015. Annual budget expenditures were evaluated using correlational analysis. This was done to compare the budget before and after a change in management which occurred in 2013. The five-year span also allowed researchers to see if supporting the QEP impacted the Equine program budget. Additionally, interviews were conducted with equine department staff and two student workers involved with the program for clarification on operation and financial decisions. Interviews were recorded and transcribed before evaluation using R (version 3.3.2) to identify themes associated with the individual interviews. For this project, income or revenue included money received on a regular basis. Budget inputs included short-term or temporary funding such as sales or donations. Expense reductions were defined as temporary inputs that could supplement the budget and maintained current levels of program quality. The limitations of this study included the five-year span of reviewed data and incomplete records from that time, specifically a lack of exact financial figures related to expenses concerning equine medical, dental, and farrier care.

Results and Discussion

Historically, agriculture studies have been inherently experiential (Croom, 2008). Experiential learning has evolved but continues as an acknowledged natural and successful place in tertiary education (Baker et al., 2012; Cheek et al., 1994; Etling, 1993; Hughes and Barrick, 1993). Equine, and other agricultural higher education programs vary widely across the country. Likewise, not all institutions have the same entrepreneurial resources to fund, expand, or improve experiential learning for students. Various fundraising opportunities conducted by equine departments in universities and colleges across country have included: youth camps or schools; hosting shows or clinics; dinners with silent auctions; offering seminar space for other equine organizations or continuing education opportunities; and crowdfunding (Burk, A., personal communication). Alternative approaches to funding EL have been studied and can serve as additional examples (Cowart, 2010; Ferek, 2014; Henson, 2010;). While there is extensive literature about post-secondary education funding across the United States, the emphasis has been on institutional funding with very little focusing on experiential education. Programs at MSU have developed different approaches to funding experiential education.

Funding Methods

There are four types of funding that supported equine education at MSU (Table 1). Traditional sources included legislative funding and course fees. Legislative-based funding is allocated by the state to schools based on performance. It can also be referred to as non-discretionary or operational funds and are often found in a university's budget book. This includes capital funds used to purchase and maintain buildings, equipment, and land. Course fees, collected from students for riding courses and classes that included laboratory sections, funded horse care and purchase of supplies used in laboratory sessions. They had been collected for riding classes for many years but were later included in other

Table 1. Four funding sources sustain the Murray State University Equine program. Two are traditional funding sources: legislative funds and course fees. Two are nontraditional funding sources: endowments, grants, and sponsorships, and self-generating funds. Examples of the types of funding are listed in the right column. Those used for Murray State University's Equine Program are labeled with an asterisk.

Traditional Funding sources:	Examples
Legislative Funds: also known as non-discretionary or operational funds; often found in university's budget book	<ul style="list-style-type: none"> • Student-derived funding from tuition • State or federal appropriated funding
Course Fees	<ul style="list-style-type: none"> • A flat rate collected for participation in specific courses – i.e. riding classes or courses involving laboratory work*
Nontraditional Funding sources:	Examples
Endowments, grants, and sponsorships	<ul style="list-style-type: none"> • Statewide equine fund collected from industry activities* • Grants for research pursued by faculty or graduate students* • Sponsorships from industry professionals or private citizens to support educational or research needs* • Donations from alumni
Self-generating Funds	<ul style="list-style-type: none"> • Renting out stalls to current students* • Equine sales* • Utilizing university horses for private lessons during non-school terms (summer semesters)* • Renting out barns or arenas to organizations for seminars or events • Hosting youth camps or continuing education seminars • Dinners with silent auctions

undergraduate courses to support laboratory expenses. Non-traditional sources included self-generating funds and endowments, grants, and sponsorships. Self-generating funds were collected from the use of capital assets, including renting unutilized stalls and sales of superfluous horses. Self-generating funds had been an active part of the program for several decades. Endowments, grants and sponsorships paid for research opportunities. Staff and faculty must competitively seek out these funding sources. The addition of a new faculty member in 2012 increased the use of this funding method, which expanded on EL opportunities for students who became involved in research projects.

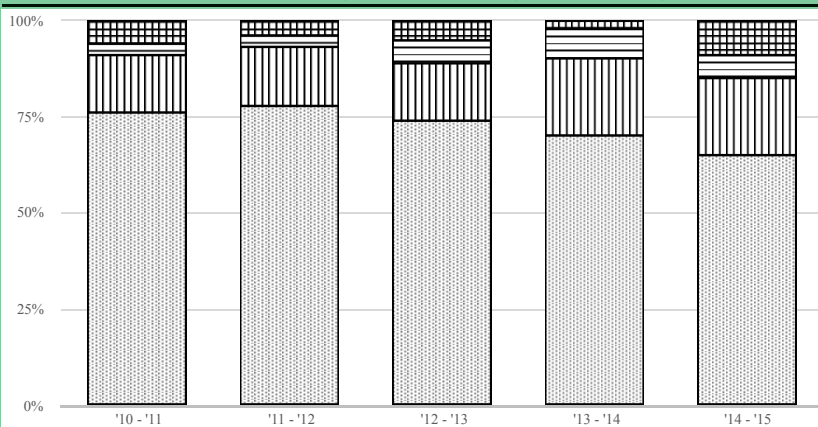
Primary Funding Method. The EL focus of the MSU Equine program was primarily reliant on self-generating funds made possible through the more efficient use of underutilized capital assets (Figure 1). The program utilized approximately 70 acres of land, which were a key component of how the program supported and financed EL. The acreage facilitated grazing for University and student horses; sustained three barns; an Equine Center that included classrooms and an indoor arena; and parking for University students and faculty. The Equine program rented stalls to current students, and most of the EL budget resulted from those stall fees. From at least 2008-2014, stall fees remained the same. In 2014, the fee increased by 12%, which increased the annual budget. This increase was below the economic inflation rate during the same period (<http://www.usinflationcalculator.com>), which allowed the University to remain competitive in the local horse boarding market. Income collected from student boarding fees created an enterprise budget to support a herd of horses that also relied on the designated acreage and barns. In turn, the University-owned herd provided a unique resource to facilitate the EL principles of the QEP.

Other Funding Sources. The MSU Equine program worked to maximize EL opportunities within budgetary limitations using other budget supplements (Figure 1). Equine course fees were increased in 2013 and largely supported materials needed for expanding of EL opportunities. Horse sales served as a budget input and varied from year to year. The program did not rely on animal sales to support its EL goals, instead returning the funds to a separate account for future training of current horses or purchases of new animals. Faculty also began increasing the use of grant funding and sponsorships in 2012 for the use of research. Student involvement in research was encouraged and expanded on typical EL opportunities available through courses.

Interview Reviews

Faculty in the MSU Equine program expressed the ultimate goal of increasing EL opportunities without sacrificing quality of life for the University-owned herd or increasing costs for the program. This aligned with the QEP established by the University. Reviews of faculty interview transcripts established five themes that supported EL using nontraditional funds: decrease expenses, increase herd value, improved management procedures, department collaboration, and flexibility (Table 2). Some themes were directly addressed by the interviewees, including improving management procedures, increasing herd value, and decreasing expenses associated with the University herd. During interviews, faculty repeatedly described practices that could be summarized as improving department collaboration and utilizing flexibility in management strategizing. These five themes contributed to a strategic planning style by the faculty. Strategic planning involves ‘reviewing an organization’s strengths, weaknesses, opportunities, and challenges to operate more successfully (Korosec,

Figure 1. Funding sources used to fund experiential learning (EL) opportunities in Murray State University’s Equine program.



Self-generated funds include stall rental fees and equine sales and are a non-traditional funding method. Funds from stall rental support horse care and EL opportunities directly. Funds from equine sales were used to enable purchases of new horses for the program or for training of horses already in the program. These animals were then used to support EL in the Equine program. Endowments, grants, and sponsorships are also non-traditional funding sources that were used to support EL at Murray State University. Endowments helped to support both capital funds and EL, while grants and sponsorships helped to fund research as EL in which students could participate. Course fees are a traditional funding method and were collected from students participating in riding courses and those involving lab-based learning and went directly into horse care or EL.

Table 2. Five management themes isolated from key words or concepts expressed during interviews with faculty and student workers. Key words or concepts either had been or could be implemented into program management protocols.

Management theme	Key words or concepts
Improving Management Protocol	<ul style="list-style-type: none"> • More accurate recordkeeping • Optimization of student worker hours • More economical budget decisions • Increasing animal use
Improving Herd Value	<ul style="list-style-type: none"> • Reducing total herd size • Improving breeding program • Seeking donations of multi-use, reliable horses
Decreasing Expenses	<ul style="list-style-type: none"> • Rotational grazing • Reducing total herd size • Negotiate service contracts • Lease out horses over the summer
Department Collaboration	<ul style="list-style-type: none"> • Rely on colleagues' strengths • Regular meetings and clearly stating expectations • Setting department goals • Sharing obligations and responsibilities • Fundraising as a team
Flexibility and Change	<ul style="list-style-type: none"> • Trying and evaluating new methods or procedures for management, courses, fundraising, etc.

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2006). Specific to this program, strategic planning involved informal reviews by faculty to achieve its ultimate goal.

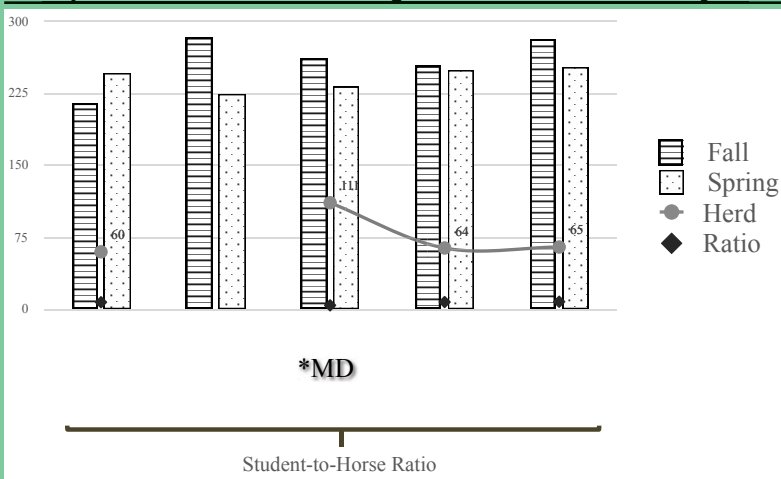
Decreasing Expenses. Equine program faculty worked to decrease University herd expenses below the self-generated annual budget using capital assets. To that end, Murray State's equine faculty implemented a rotational grazing plan in 2013. However, budget reviews did not show reduced expenses from the initial implementation of the practice from 2013 – 2015. Interviews suggested that rotational grazing was valuable to the program, regardless of the finding, describing fewer weeds, longer growing seasons, and less dependence on grain supplementation to meet nutritional requirements (Conner, A., personal communication). A second approach to reducing expenses resulted in contract negotiations with a different equine feed company leading to lower supplement costs.

The Equine program also worked to decrease expenses through herd size reduction. Horses that were not useful to the program were rehomed through approved buyers and reputable auctions reducing expenses associated with maintaining equine welfare by about 21% from 2012 to 2014.

Increasing Herd Value. The second theme of improving herd value led to more focused, selective breeding goals and established an appropriate herd size relevant to animal welfare and students' EL. In 2012, the equine herd at MSU peaked at 111 horses (Figure 2). That herd size was above recommended guidelines for pasture management as the MSU facility was located on approximately 70 acres of land (Singer et al., 1999). Concerns at that time included underutilization of horses and increased stress on both financial and land resources. During the same academic year, there was a management change resulting in improved herd management strategies. Management determined, based on funding availability and capital resources, that a herd size of 60-65 horses adequately supported student education (Conner, A., personal communication). Fewer animals increased herd value by increasing student-to-horse touch ratios (Colston C., Conner, A., Robinson S., personal communications). Student-to-horse touch ratio is a measure of how often a student interacts with a horse. Some horses, like those involved with riding courses and teams, have higher ratios. Broodmares, and young horses handled less frequently, have lower ratios, but are still valuable to the program. As a result, student-to-horse ratios were evaluated as a herd average. During peak herd size, student-to-horse ratio was 4.4, compared to 8.2 in 2015 (Figure 2). Increasing student-to-horse ratios increased each animal's value to the University as they became more critical to the program.

Remaining Themes. The final three themes of the MSU Equine program interviews included improving management procedures, department collaboration, and flexibility. The faculty elaborated on management

Figure 2. Annual University student enrollment in the Equine program, herd size, and student-to-horse ratios from 2010 to 2015. Decreasing herd numbers after a management change in 2012 increased the student-to-horse ratio, which increased the value of animals in the herd. *Equine herd size data was missing for the 2011-2012 academic year.



decisions during the 2010-2015 academic years. The MSU Equine program staff had a functional team structure as described by Lafond et al. (2011). In general, the instructors had specialized, complementary roles. Interview responses indicated that faculty and staff collaborated with one other, as well as outside the department, as needed (Colston C., Conner, A., Robinson S., personal communications). Teamwork correlates to positive job satisfaction, increased knowledge transfers between employees, and resource attainment (Weber and Weber, 2010; Yang and Guy, 2011; Maciejovsky et al., 2013). Additionally, cooperative environments encourage more significant involvement by team members (Korosec, 2006; Jung et al., 2010).

Academic institutions have a fragmented organizational structure allowing for natural changes, and, conversely, unique constraints (Amis and Aïssaoui, 2013). Equine faculty hires during the reviewed years led to natural changes in management procedures: improved recordkeeping, optimization of student worker hours, more economical budget decisions, and increased animal use (Colston C., Conner, A., personal communication). The changes led to more economical budget decisions, reducing welfare costs for the University herd. Creating change is a positive, consequential effect of strategic planning (Korosec, 2006). Equine program faculty used flexible management styles to strategically plan for each academic year. Fostering cooperation between organizations facilitates necessary changes to accomplish goals (Amis and Aïssaoui, 2013).

Recommendations: Room for Improvement

Entrepreneurial approaches to funding higher education are not common, as the approach is more closely associated with business models. During the academic years studied, herd size ranged from a low of 60 in 2010 and peaked at 111 in 2012. Student enrollment in the fall semesters ranged from 215 in 2010 to 282 in 2011. Although horse numbers increased in 2012, student enrollment decreased to 261 (Figure 2). Budget inputs

from stall rental and course fees decreased during this time, but expenses did not decrease due to the additional horses. As a result of incomplete management and budget data, it is unknown why herd numbers were increasing as budget inputs were decreasing. For this reason, the Equine program might benefit from adapting more practices normally associated with business, like comprehensive recordkeeping and the development of a business plan. Complete financial records would provide the opportunity to track statistical income and expense data. Business plans can provide a framework for successful goal-focused decision making and funding acquisition (Fernandez-Guerrero et al., 2012; Haag, 2013). Developing goals has been shown to have a positive impact on employee task perception, personal responsibility, and performance (Denis et al., 2011; Jung et al., 2010; Jung, 2012).

The theme of flexibility should be expanded on as research shows that emphasizing end goals and allowing for creativity in reaching those objectives improves outcomes (Woolley, 2009). Faculty goals to increase EL opportunities for students relies on flexibility by educators to transition between formal education, nonformal education, and informal education as opportunities transpire (Etling, 1993). Doing so without negatively impacting equine welfare or increasing costs for the program could be included in a mission statement as part of a business plan. Philosophically viewing the Equine program as a business, working in competition with the seven other equine programs in the state, could encourage staff to develop strategies to be more competitive in the equine education market inside Kentucky. Currently, the MSU Equine program focuses on differentiating their program with EL opportunities in a broad market with two general bachelor's degrees for students to choose from. By identifying their program on a perceptual map against other regional and prominent equine programs, faculty could help develop a competitive strategy to increase enrollment in the program. Increasing enrollment would increase income from course fees and make the program more valuable to the University. Additionally, Equine faculty were unaware that their methods to achieve their ultimate goal could be summarized as strategic planning. Viewing the program as a business could help them recognize their methods compare to successful management strategies appropriate for their situation. Finally, evaluating the on-campus boarding operation with a business approach would be appropriate, as the student boarding stalls were not full during the reviewed years. Price is likely not the issue; board at the University is cheaper than board at other equine facilities in the area. Improving on issues that result in students choosing other locations could make the University more competitive in the local boarding market.

Summary

Kentucky universities face competitive budgeting for post-secondary education. It is important to clarify that Murray State University, the Hutson School of Agriculture,

and some aspects of the Equine program are funded by the PBF 2.0 model reestablished in 2017 by the state. Murray State University's Equine program established an alternative source of funding for its EL using an entrepreneurial approach reliant on capital assets. By using underutilized boarding stalls on campus, the Equine program at MSU relied largely on self-generating income opportunities to maintain a University-owned herd. Other nontraditional funding sources and course fees increased EL opportunities to align with the University QEP. Strategic planning by Equine faculty, identified through five themes pulled from interviews, helped sustain EL opportunities. The Equine program appeared to benefit from the ability to make some decisions as a program without interference or direct guidance from the University, although some independent decisions required clearance by the University. Research shows that senior staff support independent strategizing at the departmental level when department employees are professional and knowledgeable (Korosec, 2006). Importantly, the MSU Equine program understood that its goals needed to align with those of the Hutson School of Agriculture. Other agricultural programs, with capital resources available to them, could look to this program as inspiration for entrepreneurial forms of funding. The success of this program's approach to nontraditional funding of experiential learning was reliant on strategic planning that began during the retrospective review.

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