Internships as Applied Academic Experiences

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**Abstract**

Historically, internships have played an important role as a method of education. The early apprentice system, which can be traced back to the Babylonian Code of Hammurabi (2100 BC), allowed a young person to work closely with and learn from a skilled and knowledgeable master. The apprentice was allowed to undergo a process of observation, reasoning, articulation, and reflection, which entailed the mastery of particular techniques and skills associated with professional practice. Since that time, work-related experiential learning activities have been valued as a significant component of young adult education. Most people who have been associated with internship programs express their readiness to believe that internships are valuable to the student, the host agency, and the academic institution. One can unearth lots of anecdotal and metaphoric information about the effectiveness of internships. This research suggests that a good deal more "hard data" might prove useful, especially if it were to take the form of metrics for the Return-On-Investment.
Introduction

Internships are often designed and referred to as Work Experience Programs. Experiencing the world of work as a resume and character builder is indeed an important career entry experience for any student of Agricultural and Extension Education. The understanding of how an Extension office operates or an analysis of the customer base of a major seed company are vital elements in the development of an agricultural professional. This paper argues that an even greater potential of university internships lies in their design as programs and curricula focusing on applied academics. How, for example, might an internship program be developed that capitalizes on the student being able to integrate classroom learning with field-based learning? How might an internship experience be designed to promote sustainable partnerships between students, academic departments and agricultural employers? Finally, what are the potential impacts of an internship program on students? On academic departments? On agricultural enterprises?

Purpose of the Paper

The intent of this paper is to clarify how internships in Agricultural and Extension Education might be utilized to develop and sustain lasting partnerships between academic departments, student alumni and agricultural businesses, industries, and organizations. The work centers on a series of research-in-progress studies that are being designed in an attempt to establish metrics for the measurement of the Return On Investment (ROI) of experience-based programs like internships. If metrics can be derived that have a common acceptance among the three major partners, already mentioned, internships can be properly evaluated and improved, based upon a set of standards (ROI).

If internships are to be considered as investments in the future by all the parties in a partnership, a careful calculation of the costs associated with the learning, the teaching, and the work site learning coordination is indispensable. According to Wu (2001) "Each party who is committed to the internship-as-partnership should be able to answer the question: what is the relationship between the cost of learning and the benefits the party receives from that learning? How to analyze the impact of an internship program becomes an important issue in promoting and marketing such a program. Return on Investment (ROI), an analytical tool used in human resource development is useful in tracking the impact of a training effort through calculating the costs of training (the investment) and the benefits of training (the return). Using the ROI in calculating the costs and benefits of an internship program requires serious consideration. How to determine and identify the metrics for the measurement of the impacts of an internship program becomes an urgent necessity especially for the internship coordinator and the work-site advisor." Inputs and outcomes do not necessarily need to be measured is monetary terminology. Many returns come to agri-businesses, for example, in the form of enhanced stature in the community by their association with higher education. Academic departments may accrue a higher status among their peer departments by virtue of service and university outreach, valuable commodities in today's educational arena. Even so, when ROI is mentioned, monetary return is what typically comes to mind. The researcher believes that metrics can be developed, which will be useful in the classification and measurement of non-monetary lines of impact as well. Take, for example, the student who says his intent is to return to the family farm enterprise after graduation. He feels that he must return to the farm next summer because his help is needed to do field work. Without him on the scene the enterprise would have to hire outside help. The argument here, for the student
enrolling in an internship during the summer and not returning to the farm, is one of long term economic gain. Would the enterprise likely gain more from paying the student for field work or from the student being involved in a summer-long applied academic experience? Let's say that experience was designed in such a manner that the student learned the other side of the lending industry by doing an internship under a bank Agricultural Loan Officer.

The research-in-progress believes that metrics, indeed, can be derived that would allow such ROI to be measured in real value-identifiable terms. It should be recognized here that it isn't the standard educational jargon of rubrics that is being discussed here. Rubrics are rules or procedures generally followed; whereas, metrics are systems of measurement.

Internships in agriculture have become increasingly popular and are an effective method of offering undergraduate students a unique learning experience that helps them become more employable and exposes them to the real world of agriculture. Also, they effectively provide practical experience for those students with non-agricultural backgrounds. While the benefits of internships for students and employers are generally well known, little information concerns their potential benefits to educational institutions. A great majority of evidence of the impact of internships on any of the partners is, at best, metaphorical or anecdotal. Identifiable, justifiable, even marketable ROI just cannot be developed with limited testimonial evidence. So this paper's purpose is to illuminate a bit of the research that is being done at Iowa State to lay the groundwork for the development of hard data that can identify ROI.

Methods and Data Sources

The internship experiences in the department of Agricultural Education and Studies at Iowa State University are curriculum-based and outcome-based, as opposed to work experience-based.

During the first two weeks of the internship, each student is required to develop a through plan of work (POW) indicating how the work they will do will result in a set of core competencies that are intended as the academic outcomes of their internship. The POW serves as the early experience intervention of the curricula. Students are required to sit with their work site supervisor and develop the actual plan, week by week, that illuminates, not school-to-work, but in this case work-to-school. The planning might be thought of as "practice into theory". More than just a play on words, a solid conceptual base for how the work experiences would be designed to yield real learning competencies. The student is required to develop a five page, narrative paper, sign it and have it co-signed by the work site supervisor, then submit it to the internship coordinator. For the phase of the research being reported here, fifteen students were selected as the study population from the 30 who participated in 6 credit internships in Professional Agriculture and Extension Internships during the summer of 2001.

A mid-experience interview of 90 minutes duration was conducted by the principal investigator with each of the fifteen students. The session also the interns' agricultural business site coordinator. Students were asked to discuss three of the ten core competencies that were the most and three that were least readily attainable during the first half of their internship. This site visit process is critical to the entire internship process. It is a signal that the internship is measurably different than a work experience program. It affords the opportunity for the three-way partnership to really begin to "jell". It brings the work site supervisor into the picture almost in an Adjunct Professor relationship. This is a stature that
agri-business and Extension alike enjoys and values. It is a key relationship in assuring that the work will be designed as a learning tool. Coincidentally, the site visit is also a great tool for effectively ending student procrastination on attending to their academic assignment.

At the conclusion, of their experience, each student is required to submit a thirty to fifty page paper that further discusses their professional development in those same ten core competencies. For the purposes of this research, two Graduate Research Assistants were assigned the task of analyzing the papers for key learning themes. Assessment markers, which signaled high quality papers, were the students demonstrated capacity to report their learning from the internship experience, utilizing higher order cognitive reflection in their written responses. The primary model utilized for that portion of the reflective analysis was adapted from Hauenstein (1998). That model visualizes the knowledge of other people and the environment simply as information content that serves as input to the knowledge building process. Hauenstein's revision of the earlier Bloom Taxonomy of Cognitive Domain Objectives (1956) is here seen as specific learning experiences utilized by the student to develop intellectual skills. Such skills and abilities result in the outcomes of the process. Hauenstein would then see the educational process as comparative to a generalized systems model that equates to an input/output model. In the internship research in Agricultural Education at ISU, the assessment was based upon student learning outcomes.

The reflective responses offered by the 15 students whose work was analyzed for the purposes of this research were at all levels within the cognitive domain. The importance of this finding is that more typical responses of students who haven't been exposed to the "internship-as-partnership" interaction, involving the site supervisor, the university departmental internship coordinator, and the student themselves tend to offer reflective responses at much lower levels cognitive responses. In fact a majority of the reflective responses offered by the 15 students reported here were at the application level and above. This finding has a set of meaning far beyond the focus of the portion of the research reported here. It does, however, have a deep relationship with and particular importance to the capacity of the interns to reflect upon their concept of impact.
A completely different Research Assistant was given the responsibility of scheduling and conducting Reflective Interviews of 45-60 minute duration. At the beginning of the interview the Research Assistant explained the concept of ROI using an analogy of cost/benefit ratios in doing business. The Research Assistant checked for clarification and understanding of terminology. An examples utilized in the explanation was that students have several choices in how they gain the academic credits required for graduation, one of which is through internships. Since internships typically require more time than other means of gaining credit, students were asked to think about their time and energy as an investment, and at the same time the benefits of the experience as a return on that investment. They were asked to consider that academic departments have the opportunity to impose classroom work, independent study work, or internship work as tools for facilitating learning. It was alluded that they might consider time spent on structuring internships as investments in the facilitation of learning and the benefits gained as returns. Finally they were asked to consider that businesses have many choices in staffing to accomplish their work. They were asked to consider time spent with internships as investments and benefits derived from internships as returns on that investment. The Research Assistant then re-checked for clarity of understanding and the perceived purpose of the interview dialogue before beginning.

During the interviews each intern was asked to reflect on five questions, three of which asked their perceptions about the Return-On-Investment of their experience for themselves, their business organization, and their academic department. They were also asked to reflect on one question concerning what sort of "old ideas" they felt they had left behind as a result of their internship. Finally, they were asked if there was a variance between what they initially expected from their internship and what was actually experienced?

Results

The most common responses to question #1, in terms of ROI for the students themselves, were related to gaining hands-on experience, opportunities to work on real-world problems, and understanding the significance of teamwork in the workplace. An example response to question one was:

"A particular benefit that I received from the internship was that it helped me build my portfolio. It improved my writing skills. I gained a solid foundation. This internship provided me with realistic training that I can apply to future classes in journalism. It's greatest benefit was reconfirming my career goals. That will surely have a major impact on the remainder of my coursework and other university activities."

Students perception of major ROI for employers, question #2, were the new ideas they brought to the table, day to day operation of the business in planning and implementing programs, and special projects that resulted in the overall improvement of the business organization. One student responded to the question by saying:

"Actually I think my internship had a positive impact on communication skills. Those of both my employer and me. My supervisor had great technical skills but he wasn't so good in the area of technical writing. I, on the other hand, had a good background in writing but always seemed to get assignments for which I lacked technical skills. The internship proved to be
a good learning experience for both of us.

In response to the third question, the interns believed that the Agricultural Education department ROI centered on the positive public relations aspects, the enhancement of their students presentation skills, and opening the door for future student internships.

Considering the old ideas left behind a great many of the students talked about the relationship between the work and classes and how their internship experience has helped them in selecting classes. Others had felt that internships were just easy credits and they didn't really expect to learn so much, that most definitely was not the case. Most variance between expectations and experiences came in the surprises they had at being given such major responsibilities and in being treated as a real part of the business team.

"The internship was by no means a kind of follow around type of position, where you just watch somebody and learn from watching them. That's really what I thought it would be, but it certainly wasn't. It was very hands on, which, for me, was extremely valuable. With hands on, you learn both the good and the bad of an experience. When you do something correct you benefit by rejoicing and you get the respect and praise. If something doesn't go the way it is supposed to you also have to take the heat, that's life in the real world."

**Educational Importance**

At the current time there are a great deal of testimonial and anecdotal artifacts that support the impact of internships. However, it is quite difficult to unearth hard and conclusive data that are actually quantifiable in terms of their actual impact. The research reported here as a portion of the series of studies being conducted by the principal investigator have the potential to go a long way toward developing a realistic set of harder data through which generalizations may be made and inferences may be drawn. Through his preliminary studies, the principal investigator actually believes that hard data may be an even greater testimonial to the effectiveness and impacts of internships than is the anecdotal and metaphorical stuff. Such "hardened" information is a requirement for building a system of quantification through metrics that should ultimately result in the ability to determine real Return-On-Investment that will inevitably be utilized in marketing internships as viable learning tools.

Just think of being an academic advisor with an Agricultural Education major sitting in your office. The students wants you to give her some "hard" ideas on whether she should select a $10 per hour summer job flipping burgers at an internationally known fast food joint, or a $7 per hour internship at an internationally known hybrid corn research station in their genetic lab. Perhaps a few facts about ROI would be helpful.
References


Wu, Chia-Hsing. Faculty and staff members' perceptions of internships in the College of Agriculture at Iowa State University. Doctoral Dissertation, College of Agriculture, Iowa State University August 2001.