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S. Kay Rockwell

University of Nebraska - Lincoln, krockwell1@unl.edu

Jolene Schauer

University of Nebraska - Lincoln, Jschaue@unlserve.unl.edu

Susan Fritz

University of Nebraska - Lincoln, sfritz1@unl.edu

David B. Marx

University of Nebraska - Lincoln, david.marx@unl.edu

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Faculty Education, Assistance and Support Needed to Deliver Education via Distance

Kay Rockwell, Professor, Agricultural Leadership, Education & Communication
300 Ag Hall, University of Nebraska Lincoln, NE 68583-0709
Phone number: 402-472-3913
krockwell1@unl.edu

Jolene Schauer, Graduate Assistant, Agricultural Leadership, Education & Communication
300 Ag Hall, University of Nebraska, Lincoln, NE 68583-0709
Jschauer@unlserve.unl.edu

Susan M. Fritz, Associate Professor, Agricultural Leadership, Education & Communication
300 Ag Hall, University of Nebraska, Lincoln, NE 68583-0709
Sfritz1@unl.edu

David B. Marx, Professor, Biometry
103 Miller Hall, University of Nebraska - Lincoln, Lincoln, NE 68583-0712
Dmarx1@unl.edu

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Abstract

Faculty survey. Two-hundred seven faculty teaching academic courses and 30 administrators in two colleges in a mid-west university were surveyed to study the type of education, assistance, and support faculty feel they need to develop educational materials for distance delivery. One-fourth of these teaching faculty had taught via distance and another two-fifths (40%) expect to teach via distance within three to five years.

Findings. Overall faculty feel it is very important to obtain further education about, assistance with, or support for (a) developing interaction, (b) developing instructional materials, and (c) applying selected technologies. They also feel it is very important to have assistance with 'marketing a course.' Personal incentives, such as increase in pay, were comparatively not as important as support issues.

Challenges. These findings identify a number of challenges for higher education as the system integrates more and more distance education into course delivery. Although institutions need to

support all faculty, they need to specifically target faculty with less than 10 years of teaching experience and provide education, assistance, or support:

- for learning experiences that support an interactive learning environment
- in designing and improving instructional materials, especially in mixing technologies.
- on marketing courses.
- for obtaining assistants or facilitators.
- in evaluating the delivery process and the student outcomes.
- on using technical processes to the greatest advantage.
- for connections for peer support.
- in adjusting duties to accommodate course development.

Introduction

Advancements in telecommunications technologies have created opportunities for educators in higher education institutions to expand the educational process beyond the traditional classroom and deliver instruction and training to geographically diverse audiences locally, nationally, and even internationally. Consequently, distance education programs have rapidly expanded. These advancements in telecommunications and rapid growth in distance education programs have led to a formal definition of distance education as "the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" (United States Distance Learning Association, 1998). This integration of telecommunications technologies into a distance teaching and learning process reflects a shift in the classroom-based paradigm that educators have used for many years.

While the educational model for delivering instruction broadens, technologies continue to advance, educational delivery methods continue to expand and audiences become more diversified. In this changing environment, faculty remain a key element in the teaching and learning process. Olcott and Wright (1995) indicate that the responsibility for instructional quality and control, the improvement of learning and the aggregate effectiveness of distance education still rests with the faculty. Ultimately, it is the faculty who need to be aware of diverse technologies and delivery methods available for distance education so they can incorporate them into their teaching and learning strategies. To use distance learning strategies, faculty may need to alter teaching styles used within the "traditional classroom," and develop new skills to effectively reach the distant learner. Dillon and Walsh (1992) and Clark (1993) both observe that faculty using distance education technology face a variety of challenges when adapting their teaching styles to a framework compatible with the distance learning environment. In 1992 the Corporation for Public Broadcasting reported to Congress that faculty need to understand the relationship between learning, interactivity and technology, as well as how to operate the technology. Willis and Touchstone (1996) indicated that to be successful in distance education, faculty should have training before their initial teaching experience.

Thus, the challenge is to prepare faculty for the distance teaching experience. While opportunities exist for delivering distance education, faculty often express concerns about teaching via distance (Carl, 1991; Clark, 1993; Olcott, Jr. & Wright, 1995). Rockwell, Schauer, Fritz, and Marx (1999) found that faculty felt major obstacles to teaching via distance were developing effective technology skills along with obtaining necessary assistance and support.

Miller and Carr (1997) found the five highest faculty information and training needs in 1862 land-grant universities were (a) teaching techniques for distance education, (b) enhancing interaction in distance education, (c) learner-centered teaching techniques, (d) designing instruction for credit courses, and (e) models of effective distance teaching.

For faculty to be successful in distance education teaching, higher education institutions must take into account the wants, needs, interests, and aspirations of the faculty so they can help faculty develop distance learning educational models and techniques. Dede (1990) states that once the prohibiting forces are confronted, distance education strategies can then empower both the students and faculty where there is active, student-constructed learning and adventurous, risk-taking teaching.

Therefore, this study **identified the type of education, assistance, and support faculty need to develop educational materials for distance delivery.** In addition, it identified differences in the way education, assistance, and support are viewed by (a) teaching faculty and administrators, (b) teaching faculty who have taught or are teaching via distance, expecting to teach via distance in the next three to five years, and never expecting to teach via distance, (c) faculty who have taught 10 years or less, 11 to 20 years, and more than 20 years, (d) tenured and non-tenured faculty, and (e) faculty teaching only undergraduate classes and those teaching only graduate classes.

Methodology

To study the types of education, assistance, and support faculty need to develop educational materials for distance delivery, two colleges in one mid-west land-grant university were selected. Over the past decade, these two colleges have emphasized developing distance education opportunities, and their strategic plans now call for expanding the effort. Initial interviews with 16 administrators revealed that concerns about faculty training centered around using the technology and designing the instruction for distance delivery (Rockwell, et al., 1999).

Instrument development. Using the administrators' comments about faculty concerns along with concerns identified in a literature review, a mail survey instrument was developed. Thirty-nine items were listed that could be classified as training or support needs for teaching via distance. A Likert scale was used to rank the importance of each item. The instrument was evaluated by five faculty members to assess the appropriateness of the items. The instrument was revised and then pre-tested with 20 faculty members engaged in distance education delivery in other colleges at the university. This group completed the instrument and critiqued it for readability, structure, and form. Based on their responses, the instrument was again revised.

Subjects. The target population was 207 faculty teaching academic courses including those who serve in administrative positions, and 30 administrators in the College of Agricultural Sciences and Natural Resources and in two colleges in a mid-west University. The two colleges selected were those that included faculty with Cooperative Extension appointments. The entire group was surveyed.

Data collection. The instrument was distributed through campus mail in 1997. The first mailing included a cover letter describing the purpose of the study, the importance of participating in the study, length of time required for completing the instrument and a brief statement concerning the confidentiality of the participants. A self-addressed return envelope was also provided. Ten days after the initial mailing, a follow-up post card was sent to thank those participants who had completed the instrument, and to remind the others to return the instrument. Twenty days following the initial mailing, another instrument, cover letter, and self-addressed envelope were mailed to those who failed to return the first survey. A code number was placed on the instruments for tracking non-responders. It was removed from the completed instrument after it was received. The instrument was returned by 67% of the faculty and 77% of the administrators.

Data analysis and interpretation. Data were entered into a file for analysis using the Statistical Analysis System (SAS). Means were calculated for all variables and grouping were formed based on proximity of the means. The Wilcoxon test (SAS User's Guide: Statistics, 1985) was used to identify differences between (a) teaching faculty and administrators, (b) tenured and non-tenured faculty, and (c) faculty teaching only undergraduate classes and those teaching only graduate classes. The Kruskal-Wallis test (SAS User's Guide: Statistics, 1985) was used to determine differences among (a) teaching faculty who have taught or are teaching via distance, expecting to teach via distance in the next three to five years, and never expecting to teach via distance and (b) faculty who have taught 10 years or less, 11 to 20 years, and more than 20 years. The significance level was set at $p = .05$.

A Profile of Survey Respondents

When organized by appointment, full professors and administrators represented 53% of the respondents, associate and assistant professors represented 42%, and instructors represented 5%. Other demographic characteristics of the respondents included: 80% were tenured; 28% had taught for 10 years or less, 35% between 11 and 20 years, and 36% more than 20 years; 23% had taught undergraduate level courses, 13% graduate level, 60% both levels, and 4% were not teaching at the time of the survey.

Slightly over one-fourth (26%) of the teaching faculty had taught via distance. They gained distance teaching experience by teaching either an entire course, parts of a course, or workshops. Another two-fifths (40%) expect to teach via distance within three to five years, while one-third (34%) never expect to teach via distance.

Findings of Educational, Assistance, and Support Needs for Faculty

There were 39 items listed on the survey that related to educational needs, assistance, and institutional support for the faculty who deliver instruction via distance. These items were rated on a four-point scale where 1 = very important, 2 = somewhat important, 3 = somewhat unimportant, and 4 = very unimportant. On the basis of the overall mean score, 13 of the items were classified as very important while 26 items were classified as somewhat important (Figure 1). None of the items were classified as unimportant needs for helping faculty deliver education via distance.

Figure 1. Ranking of Issues Related to Education, Assistance and Support Needs for Faculty (*Scale: Very Important: M = 1 to 1.50; Somewhat Important: M = 1.51 to 2.49).

Very Important*	Mean		Mean
Instructor to student interaction	1.34	Web-based delivery strategies	1.46
Developing materials for students that support the course content	1.35	Developing materials for students that support the use of the required technology	1.46
Marketing the course	1.41	Mixing technologies	1.47
Students' interaction with the instructional content	1.41	Having a general knowledge of distance education	1.48
Developing an instructional design	1.43	Providing a local contact point for students	1.49
Student feedback	1.43	Implementing various teaching techniques and strategies	1.50
Additional operational support	1.46		
Somewhat Important*	Mean		Mean
Planning and developing curriculum content	1.53	Copyright issues	1.65
Developing support materials for assistants or facilitators	1.54	Reduction in duties	1.65
Integrating multimedia applications	1.54	Videotape development and usage	1.74
Outcome evaluation (summative)	1.55	Audio conferences	1.85
Designing graphics	1.56	Peer feedback	1.89
Providing easier access to library services for students	1.56	Satellite delivery strategies	1.93
Student or graduate assistance/help	1.56	A mentoring partner	1.98
Clarifying transfer issues	1.57	Issues of teacher certification when institutional boundaries are crossed	2.05
E-mail usage	1.58	Registration policies for distance courses	2.18
Process evaluation (formative)	1.58	Tuition and fee requirements	2.29
Taking care of registration	1.60	Issues addressed by the State Coordinating Commission for Post-Secondary Education	2.40
Student to student interaction	1.62	Increase in pay	2.43
Addressing student learning styles	1.65		
*Scale: Very Important: M = 1 to 1.50; Somewhat Important: M = 1.51 to 2.49			

Very Important Needs

In the very important category, several individual items grouped together. Consequently, faculty feel it is most important to obtain further education about, assistance with, or support for (a) developing interaction, (b) developing instructional materials, and (c) applying selected technologies. They also feel it is very important to have assistance with ‘marketing a course,’ an item that does not fit into a grouping with other items.

Developing interaction. The specific items grouped together included:

- Instructor to student interaction
- Student interaction with the instructional content
- Student feedback
- Providing a local contact point for students

Faculty who ranked ‘instructor to student interaction’ higher in importance were those who had taught 10 years or less ($\chi^2 = 7.80$; $df = 2$; $p = 0.02$) and those teaching only undergraduate courses ($z = 2.38$; $p = 0.02$). Those who ranked ‘student interaction with the instructional content’ higher in importance were those teaching only undergraduate courses ($z = 2.55$; $p = 0.01$) and non-tenured faculty ($z = 2.57$; $p = 0.01$). Faculty who ranked ‘providing a local contact point for students’ higher in importance were those teaching only undergraduate level courses ($z = 2.59$; $p = 0.01$).

Developing instructional materials. The specific items grouped together included:

- Developing materials for students that support the course content
- Developing an instructional design
- Additional operating support
- Having a general knowledge of distance education
- Implementing various teaching techniques and strategies

Faculty who ranked ‘developing an instructional design’ higher in importance were those who taught only undergraduate courses ($z = 2.19$; $p = 0.03$).

Faculty who taught 10 years or less also viewed ‘developing an instructional design’ as more important than did the faculty with more than 20 years teaching experience ($\chi^2 = 7.05$; $df = 2$; $p = 0.03$).

Faculty who ranked the need for ‘additional operating support’ higher in importance were those who taught only undergraduate courses ($z = 2.17$; $p = 0.03$).

Faculty who ranked ‘implementing various teaching techniques and strategies’ higher in importance were those who taught only undergraduate courses ($z = 2.98$; $p = 0.01$) and non-tenured faculty ($z = 2.70$; $p = 0.01$).

Applying selected technologies. The specific items grouped together included:

- Developing materials for students that support the use of the required technology
- Web-based delivery strategies
- Mixing technologies

Faculty who taught 10 years or less ranked ‘mixing technologies’ higher in importance than did the faculty with 11 to 20 years teaching experience ($\chi^2 = 7.02$; $df = 2$; $p = 0.03$).

Somewhat Important Needs

In the somewhat important category, items clustered into seven general categories: (a) curriculum content, design, and evaluation, (b) assistance, (c) selected technologies, (d) student services, (e) overall policies, (f) peer support, and (g) workload compensation. All items related to curriculum content, design, and evaluation along with those related to assistant help fell within the upper range of the somewhat important category (means between 1.53 and 1.65). The items related to selected technologies tended to have slightly lower means than the previous two groupings, but they still remained above the somewhat important score of 2.0. Logistical issues related to student services remained above the somewhat important score of 2.0 while logistical issues related to overall policies fell below the somewhat important score of 2.0. Peer support items remained above the somewhat important score of 2.0. Workload compensation was split – ‘reduction in duties’ ranked above the somewhat important mean of 2.0 while ‘increase in pay’ ranked close to being unimportant.

Curriculum content, design, and evaluation. The specific items grouped together included:

- Planning and developing curriculum content
- Outcome evaluation
- Designing graphics
- Process evaluation (formative)
- Student to student interaction
- Addressing student learning styles

Faculty who ranked ‘student to student interaction’ higher in importance were those teaching undergraduate level courses ($z = 2.46$; $p = 0.01$), those with 10 years or less teaching experience ($\chi^2 = 6.98$; $df = 2$; $p = 0.03$), and non-tenured faculty ($z = 2.20$; $p = 0.03$). Faculty who ranked ‘addressing student learning styles’ higher in importance were those teaching undergraduate level courses ($z = 2.46$; $p = 0.01$) and non-tenured faculty ($z = 2.96$; $p = 0.01$). Faculty who ranked ‘process evaluation’ higher in importance had taught 10 years or less ($\chi^2 = 12.60$; $df = 2$; $p = 0.01$) or were non-tenured ($z = 2.62$; $p = 0.01$).

Assistance. The specific items grouped together included:

- Developing support materials for assistants or facilitators
- Student or graduate assistant help

Those faculty who taught 10 years or less ranked ‘developing support materials for assistants or facilitators’ higher in importance than did the faculty with more than 20 years teaching

experience ($\chi^2 = 6.44$; $df = 2$; $p = 0.04$). Faculty who ranked ‘student or graduate assistant help’ higher in importance were those teaching only undergraduate level courses ($z = 2.40$; $p = 0.02$).

Selected Technologies. The specific items grouped together included:

- Integrating multimedia applications
- Audio conferences
- E-mail usage
- Satellite delivery strategies
- Videotape development and usage

Faculty who taught 10 years or less ranked ‘integrating multimedia applications’ ($\chi^2 = 8.76$; $df = 2$; $p = 0.01$) and ‘e-mail usage’ ($\chi^2 = 6.36$; $df = 2$; $p = 0.04$) higher in importance than those with 11 years and above.

Student services. The specific items grouped together included:

- Providing easier access to library services for students
- Clarifying transfer issues
- Taking care of registration
- Copyright issues
- Clarifying tuition costs

Faculty teaching undergraduate level courses saw the items of ‘providing easier access to library services for students’ ($z = 3.35$; $p = 0.01$) and ‘copyright issues’ ($z = 2.33$; $p = 0.02$) as more important than did faculty teaching graduate level. Administrators saw the items of ‘taking care of registration,’ ($z = 2.00$; $p = 0.04$) ‘copyright issues,’ ($z = 2.10$; $p = 0.04$) and ‘clarifying tuition costs’ ($z = 2.25$; $p = 0.03$) as more important to know about than did faculty.

Overall policies. The specific items grouped together included:

- Issues of teacher certification where institutional boundaries are crossed
- Registration policies for distance courses
- Tuition and fee requirements
- Issues addressed by the Coordinating Commission for Post-Secondary Education.

Faculty who taught only undergraduate courses generally ranked ‘issues of teacher certification when institutional boundaries are crossed’ higher in importance than did those who taught only graduate courses ($z = 2.28$; $p = 0.02$). Faculty who have taught 10 years or less tended to rank ‘issues of teacher certification when institutional boundaries are crossed’ higher in importance than did the faculty with more than 20 years teaching experience ($\chi^2 = 6.23$; $df = 2$; $p = 0.04$). Faculty who have taught 10 years or less tended to rank ‘issues addressed by the Coordinating Commission for Post-Secondary Education’ higher in importance than did the faculty with 11 to 20 years teaching experience ($\chi^2 = 11.04$; $df = 2$; $p = 0.01$). Non-tenured faculty tended to rank ‘tuition and fee requirements’ higher in importance than did tenured faculty ($z = 2.14$; $p = 0.03$).

Administrators were more likely to view the item of ‘tuition and fee requirements’ as more important to know about than were faculty ($z = 2.25$; $p. = 0.02$).

Peer support. The specific items grouped together included:

- Peer feedback
- A mentoring partner.

Faculty teaching only undergraduate courses ranked ‘peer feedback’ higher in importance than did faculty teaching only graduate courses ($z = 2.03$; $p. = 0.04$). Those faculty with less than 10 years teaching experience ranked ‘mentoring partner’ higher in importance than did the faculty with more than 20 years teaching experience ($\chi^2 = 6.57$; $df = 2$; $p. = 0.04$). And, non-tenured faculty also ranked ‘mentoring partner’ higher in importance than did tenured faculty ($z = 2.75$; $p. = 0.01$).

Workload composition. The specific items grouped together included:

- Reduction in duties
- Increase in pay

Non-tenured faculty ranked ‘reduction in duties’ higher in importance than did tenured faculty ($z = 2.26$; $p. = 0.02$). Those faculty with 11 to 20 years teaching experience ranked ‘increase in pay’ higher in importance than did faculty with more than 20 years teaching experience ($\chi^2 = 6.52$; $df = 2$; $p. = 0.04$). And, those faculty teaching only undergraduate courses also ranked ‘increase in pay’ higher in importance than did faculty teaching only graduate courses ($z = 2.30$; $p. = 0.02$).

Challenges

Since another 40% of the teaching faculty expect to be teaching via distance in the next two to five years, the institution has a number of challenges for providing educational opportunities, assistance, and support for this changing educational strategy. Specific issues to address to help faculty prepare to teach via distance are:

- Interactive learning experiences – Educational opportunities for faculty need to focus on providing student learning experiences that support an interactive learning environment.
- Designing and improving instructional materials – Educational opportunities are needed for developing instructional materials that mix technologies and make use of mediated information and instruction.
- Marketing courses – Strategies to market courses need to continue to be developed by others who support distance delivery so faculty can devote their efforts to the educational process.
- Assistance – Strategies should continue to be developed to support assistants or facilitators and funds should be identified to offer graduate assistant help.
- Evaluation – Strategies for process and outcome evaluation need to be integrated into educational packages.
- Technical processes – Education on specific technical processes (e.g., integrating multimedia applications, e-mail usage, videotape development, audio conferencing, and television delivery) should be available for faculty.

- Peer support – Opportunities need to be available for faculty teaching via distance to obtain peer feedback and work with a mentoring faculty partner if they so desire.
- Workload support – Consideration needs to be given to adjusting duties to accommodate course development rather than only offering additional financial support.
- Student services – Other university services need to continue to address logistics related to student services (e.g., library services, transfer issues, registration, copyright, tuition costs), but faculty should have a working knowledge about how these issues impact distance teaching.
- Overall policies – Administrators need to continue to focus on the logistics related to overall policies (e.g., registration policies, tuition and fee requirements, teacher certification issues, and Coordinating Commission for Post-Secondary Education) that affect distance delivery and keep faculty informed about them.

Summary

In summary, faculty felt it is very important to obtain further education about, assistance with, or support for (a) developing interaction, (b) developing instructional materials, (c) learning about newer web-based delivery strategies as well as using a mix of different technologies, and (d) marketing a course. Faculty who taught only undergraduate courses tended to rank these items as more important than did other faculty. Faculty felt it is *somewhat important* to (a) have help with developing the curriculum content, its design, and evaluating the delivery process as well as the student outcomes, (b) have student or graduate assistant help, (c) effectively learn how to better use and integrate the "older" technologies, [i.e., e-mail, audio conferences, satellite, and videotape], and (d) have peer support. Faculty teaching only undergraduate courses, those who were non-tenured, and those teaching less than 10 years tended to feel a greater need for training, education, or support in these area than did other faculty. Faculty felt it is more important to understand logistical issues related to student services than the logistical issues related to overall policies. Again, faculty teaching undergraduate courses tended to rank the logistical issues higher in importance than did other faculty. Faculty with administrative duties tended to rank issues related to registration, tuition, and copyright higher in importance.

All items related to curriculum content, design, and evaluation along with those related to assistant help fell within the upper range of the somewhat important category. The items related to selected technologies tended to have slightly lower means than the previous two groupings, but they still remained in the upper range of the somewhat important category. Logistical issues related to student services remained in the upper limit of the somewhat important category while logistical issues related to overall policies fell into the lower range of the somewhat important category. Peer support items remained in the upper level of the somewhat important category. Workload compensation was split – ‘reduction in duties’ ranked in the upper level of the somewhat important category while ‘increase in pay’ ranked close to being unimportant.

As more and more faculty teach via distance, their needs for education, assistance, and support will need to be monitored. Institutional assistance can then be adapted as technologies change and faculty share their experiences throughout different departments. The most supportive aspects can then be implemented so goals for distance education can be realized.

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