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Early Adopters of Distance Education: Their Motivations and Expectations

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“According to diffusion theory, adoption of technological innovations is a function of one’s innovativeness, or willingness to try new products.”
(Atkin, Jeffres & Neuendorf, 1999)

According to Kenneth C. Green, early adopters are the “first wave” of faculty and staff at a institution who are drawn to a particular technology or innovation (1995, p. 11). These innovators are important because they often provide the leadership at a University that can make or break new approaches to teaching and learning. This article addresses the following questions: What does some of the literature tell us about these groundbreakers? How does this information compare to the faculty attitudes expressed on a survey at the University of Nebraska?

Background

Studies suggest that faculty consider several factors when evaluating innovations. Their attitudes toward radical new practices such as the use of technology for distance instruction are very complex and highly innovation-specific (Finkelstein, 1984). Unlike faculty who adopt more general curricular innovations, advocates of instructional television (often seen as the antecedent to modern distance telecommunications) derive their interest from personal considerations such as feasibility, desirability, familiarity, and status (Evans & Leppman, 1968). Taylor and White (1991) cite research that supports the role intrinsic rewards play in attracting faculty to distance teaching. Faculty perceive the primary benefits in distance education to be the following capabilities:

- a) to reach new populations,
- b) to involve better prepared and more motivated students,
- c) to enjoy more flexibility in one’s work schedule, and
- d) to attain pedagogical advantages such as a broader range of media-based resources (Taylor and White, 1991; Dillon, Hengst, and Zoller, 1991; Johnson and Silvernail, 1990; Clark, Soliman and Sungaila, 1985).

Innovation diffusion literature from a variety of fields asserts that demography and user needs are primary determining factors when it comes to new media adoption and use. This broad body of literature finds that early participants in the electronic revolution tend to be upscale, better educated, and younger than nonadopters of electronic technology (Klitsch, 1998; Norton & Bass, 1987; Taylor, Moore, & Amonsens, 1994). Other powerful influences are the needs or media use patterns exhibited by the adopters (Atkin, Jeffres & Neuendorf, 1998). The adoption of a given media innovation is also commonly correlated to adoption of other technologies; such as videotext, PCs, CDs and cable (Reagan, 1987).

In a review of the literature in 1992, Dillon and Walsh found a few articles that looked at the characteristics of higher education faculty who teach at a distance. According to this research, distance education pioneers:

- a) are full-time faculty,
- b) often have had experience with television courses,
- c) have been with their institutions for six or more years,
- d) have a master's or doctoral degree,
- e) are from a variety of professional fields, and
- f) represent the full range of ranks in the higher education system (Dillon & Walsh, 1992, p. 8-9)

The same review found that faculty who teach at a distance have positive attitudes toward distance teaching and their attitudes improve with their experience and familiarity with the medium and its complexities.

But the experiences of some early adopters of distance education in higher education are not as positive. There are those who try it and conclude that there are few advantages for venturing into this new territory. Some faculty perceive distance teaching as less rewarding, offering fewer career advantages, and as less scholarly than other teaching activities (Dillon, 1989; Parer, 1988; Siaciwena, 1989; Stinehart, 1988).

Faculty may also have concerns about the limitations and changes imposed by distance education technologies. In a national survey conducted by Clark (1993) forty-four percent of the 317 respondents had concerns about the quality of the interaction that could be achieved via the media. The doubters were also concerned about inadequate financial rewards, workload, research and publication concerns, and distrust of administrators.

A picture emerges, then, of pioneers in the distance field as having eccentric, possibly visionary points of view that predispose them to this new mode of teaching and learning. These leaders, who are venturing into new territory on campuses across the world, are still in what Green calls the "flat part of the learning curve" in the media adoption process. In his view, these institutions, departments and faculty are still experimenting with using familiar technologies in new and different ways, with both traditional and new clientele, and have not fully adapted the medium to current teaching methods nor have they fully adapted teaching to the medium (Green, 1995). The experience of these pioneers can be pivotal to the future of the innovation at an institution (Chau & Hui, 1998).

This article will compare and contrast the above body of research to the data gathered on early adopters at the University of Nebraska at Omaha.

The survey

To assess the characteristics of early adopters of distance learning technologies at the University of Nebraska at Omaha, a survey was distributed to 107 individuals (faculty

and staff) who had signed up for a faculty development listserv on instructional technology. The listserv (instrtech) was formed for interested users to share experiences and resources related to the use of technology in teaching and learning. The group was composed of faculty and staff from all colleges on the campus.

The survey consisted of 44 multiple choice items that explored faculty experience with newer technologies (computer and telecommunications) as well as their attitudes and preferences related to distance media. The survey was distributed in the early spring of 1997. Instrtech listserv members were asked to return the surveys by a specified date, and one reminder was sent via the listserv. Of the 107 surveys distributed, 49 (46%) were returned. This represents a little over one-tenth of the total faculty at the University (431).

The respondents

Since the respondents were all members of a group devoted to instructional technology, the attributes ascribed to early adopters and technology-users should be remembered in the interpretation of the data.

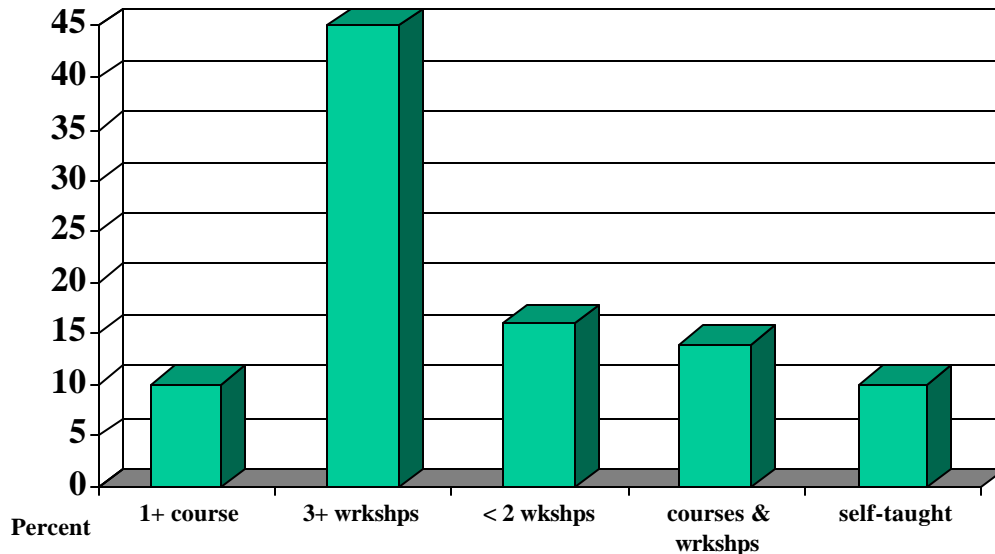
The largest number of respondents were from the Arts and Sciences College (15 out of 201), the largest college on campus, and the College of Education (14 out of 63). The largest percentage of respondents from one college came from the College of Education (22%). The profile of the typical respondent was a male (73%), full-time faculty member (92%) with over 16 years at the Institution (35%), who held a rank of associate or full professor (56%). This typical respondent had an office computer, used e-mail, had keyboard skills, and used the World Wide Web. (See Table 1)

	Number	Percentage
Male	36	73
Female	13	27
Full-time	45	92
Part-time	3	6
Full professor	14	29
Associate professor	13	27
Assistant professor	11	22
Instructor	6	12
Staff with no academic rank	5	10

Table 1 – Demographics of Respondents

Most respondents indicated that they received their training in technology through workshops rather than formal coursework (See Graph 1). Experience with distance education ranged from those who had no interest in teaching via distance (n=9) to those who had taught a course or part of a course via distance (n=15) or who were developing a distance education course (n=2). Nearly half of the respondents (n=22) said they were

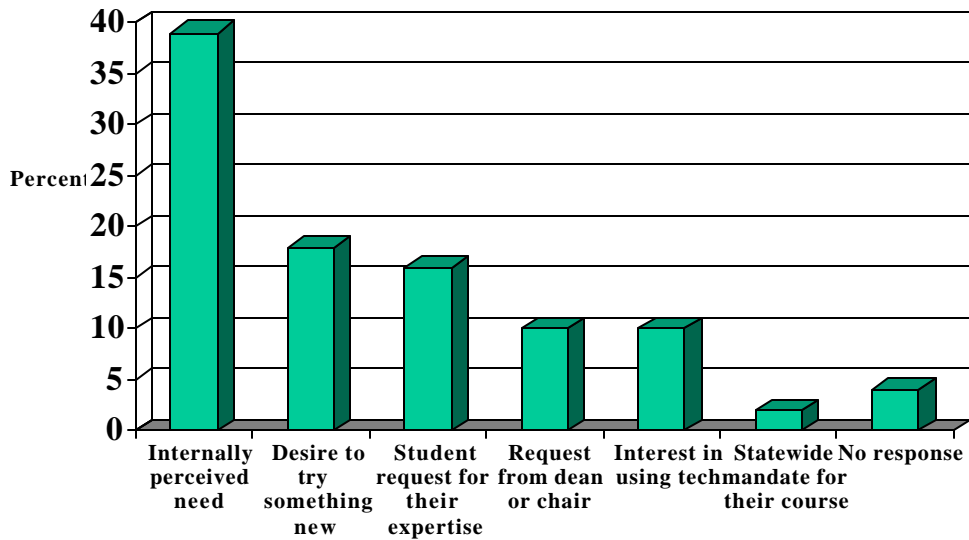
thinking about developing a distance education course and most preferred adapting an existing course for distance access (n=40) to developing one from scratch (n=5).



Graph 1 - Respondents' Professional Development Experiences

Motivators and expectations of early adopters

When survey participants were asked what would be the greatest motivators for them to teach via distance education, they indicated a strong preference (39%) for “a need that I perceive for my content knowledge outside the Omaha area that can be met only through distance education.” This was followed by “my wanting to try something new” (18%) and “a request for instruction outside the Omaha area that can be met only through distance education” (16%). Respondents were much less motivated by influences of a statewide mandate or being asked by a chair or dean to deliver a course via distance technologies (See Graph 2)



Graph 2 - Respondents' Attitudes Toward Distance Teaching

Especially revealing were what faculty perceived as difficulties involved in distance education. In a series of forced choice questions where respondents were asked to rank the three greatest challenges, “adapting the presentation of the course”, “learning how to use the technology” and “developing good class discussions” were top concerns (see Table 2). When faculty were asked what their concerns were about discussions, most responded that they had no major concerns (n=30) but some paying more attention to students in the classroom than remote sites than my students at remote sites” was a concern worth noting (n=22).

Response Item	Greatest	Second	Third
Adapting presentation	14 (31%)	10 (20%)	2 (4%)
Using the technology	11 (22%)	3 (6%)	4 (8%)
Developing good class discussions	6 (12%)	10 (20%)	11 (22%)
Including students at remote site	6 (12%)	10 (20%)	6 (12%)
Total	38 (40%)	33 (35%)	23 (24%)

Table 2 - Challenges Involved in Distance Teaching

Respondents were also somewhat wary of the potential administrative difficulties involved in distance education. They perceived the following as potential barriers:

- 1) how extra costs would be charged to students (80% with some or great concern),
- 2) how students would find out about distance education courses (75% with some or great concern),
- 3) how costs would be covered for teaching via distance (71% with some or great concern), and
- 4) locations of send-receive sites (65%).

The respondents recognized how important interaction would be in a distance learning environment. Most saw discussion as important during class and, while most had no major concerns about eliciting this discussion, almost a third (30%) worried they would pay more attention to students at the local site than remote sites.

Survey participants were aware of the potential difficulties, but were upbeat about what they felt their own contributions to this new delivery method could be. In another forced choice process where asked to rank their top three skills, respondents perceived their greatest skills were in their abilities to learn to use the technology, to adapt presentations for teaching via distance, to make the course interesting, to include students at remote sites, and to adapt assignments.

Response item	Greatest	Second	Third
Use of technology	14	3	8
Adapting presentation	8	8	5
Keeping course interesting	7	6	4
Including students at remote sites	6	10	6
Adapting assignments	4	7	6

Table 3 - Respondents' Perceptions of Their Skills in Distance Teaching

About half of the respondents expected less favorable student evaluations in distance education courses than in traditionally taught courses. Most of the remaining respondents felt there would be no differences in student evaluations.

Conclusions

Some of the responses from the UNO survey were similar to those from the larger body of literature on early adopters in that the major driving force appeared to be instructor needs. For the UNO early users, their own internal motivations were most important. They were interested in this new approach to teaching and learning because either there was a self-perceived need for their course(s) outside the traditional delivery area or because they wanted to try something new.

These results also paralleled the early adopter profile in that the respondents were already experienced users of newer technologies. The survey participants felt confident in their abilities to use the technologies and to adapt their courses to the new media.

One of the most interesting attributes of most of these early adopters was their senior status. While this higher education institution uncovered an early adopter of more senior experience, the literature from the business marketing world predicted a younger user, particularly when the innovations are newer technologies. Whether it be the freedom some senior faculty member have to pursue personal interests or a sophistication in their ability to assimilate new developments, an interesting profile emerges here of an sophisticated, more involved senior professor than is often depicted in the literature.

Like many early adopters, these survey participants appeared to be approaching the task with a few reservations. These faculty members had concerns about the administrative support system's ability to respond to the complex needs of distance education. Likewise, they expressed slight trepidation about their own abilities to adapt to the new approaches and remote learners.

One of the most reassuring findings of the survey is that these participants appeared to understand the importance of interaction in the distance learning process. Most seemed to be confident that they could invoke discussion during classroom proceedings but had some trepidation about how to best involve remote learners.

Thus, the early enthusiasts for distance education at the University of Nebraska at Omaha campus appear to be curious about the new tools and concerned about how best to apply it for improved teaching and learning. Their profile is reassuring – that of a confident, senior group of introspective scholars who want to do it well. It is hoped that this concern for quality combined with the confidence and skills of these leaders will result in a most successful program for University learners.

References

- Atkin, D. J.; Jeffres, L. W.; Neuendorf, K. A. Understanding Internet adoption as telecommunications behavior. (Fall, 1998). *Journal of Broadcasting & Electronic Media*, 42(4), 475.
- Chau, P. Y. K. & Hiu, K. L. (1998). Identifying early adopters of new IT products: A case of Windows 95. *Information and Management* 33, 225-230.
- Clark, R.G.; Soliman, M.B., & Sungaila, H. (1985) Staff perceptions of external versus internal teaching and staff development. *Distance Education*, 5 (1), 84-02.
- Clark, T. (1993). Attitudes of higher education faculty toward distance education: A National Survey. *Distance Education* 7, (2), 19-33.
- Conrad, C. F. (Apr. 1978). A grounded theory of academic change. *Sociology of Education*, 51(2), 101-112.
- Dillon, C.; Hengst, H. & Zoller, D. (1991) Instructional strategies and student involvement in distance education: A study of the Oklahoma Televised Instruction System. *Journal of Distance Education*, 6 (1), 28-41.
- Dillon, C. & Walsh, S.M. (1992). Faculty: The neglected resource in distance education. *The American Journal of Distance Education*, 6(3), 5-21.
- Dillon, C. (1989) Faculty rewards and instructional telecommunications. *The Journal of Distance Education*. 3(2), 35-43.
- Evans, R. I., & Leppman, P. (1968). *Resistance to Innovation in Higher Education: A Social Psychological Exploration Focused on TV and the Establishment*. San Francisco, CA: Jossey-Bass.
- Finkelstein, M.J. (1984). *The American Academic Profession*. Columbus, OH: Ohio State University.
- Green, K. C. & Gilbert, S. W. (March/April, 1995). Great expectations. *Change*. 27, 8-18.
- Green, K. C. (March/April, 1996). The coming ubiquity of information technology. *Change*. 28, 25-31.
- Johnson, J. L. & Silvernail, D.L. (1990). Report of faculty perception of Community College of Maine Instructional Television System. University of Southern Maine.

- Katz, E.; Levin, M. L. & Hamilton, H. (Apr., 1963) Traditions of research on the diffusion of innovation. *American Sociological Review*, 28, (2), 237-252.
- Klitsch, J. (July, 1998). The adoption curve. *Best's Review (Property/Casualty Insurance Edition)*, 99(3), 86-6.
- Norton, J. A. & Bass, F. M. (September, 1987). A diffusion theory model of adoption and substitution for successive generations of high-technology products. *Management Science*. 33, (9), 1069-1086.
- Parer, M.S. (1988). *Institutional Support and Rewards for Academic Staff Involved in Distance Education*. Victoria, Australia: Centre for Distance Learning, Gippsland Institute.
- Siaciwena, R.M.C. (1989). Staff attitudes towards distance education at the University of Zambia. *Journal of Distance Education*, 4(2), 47-62.
- Stinehart, K. (1988). Increasing faculty involvement in distance teaching. In D. Sewart and J.S. Daniel, eds. *Developing Distance Education*, Oslo: International Council for Distance Education, 412-15..
- Taylor, J. R.; Moore, E. G. & Amonsens, E. J. (Oct-Nov, 1994). Profiling technology diffusion categories: Empirical test of two models. *Journal of Business Research*, 31 (2-3), 155-162.
- Taylor, J.C. & White, V.J. (1991). Faculty attitudes towards teaching in the distance education mode: An exploratory investigation. *Research in Distance Education* 3 (3), 7-11.