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Strategies for Implementation and Adoption of Distance Learning

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While distance learning has been an education and training fixture for decades, there is still little understanding of the entire field of change as it relates to the implementation and adoption strategies which are applied to distance learning. While many organizations embrace distance learning (aka distributed learning and e-learning), there are varying levels of implementation and adoption. Some organizations fully use all types of distance learning technologies and all staff and faculty have fully adopted their use. Other organizations have mixed implementation and adoption patterns.

Varying uses levels, adoption levels, and implementation levels of educational technologies lead one to ask why we are still seeing less than a full implementation and adoption of technologies that are perceived as useful to many users.

The adoption of the innovation of distance learning has a substantial history of research into the adoption barriers.

Generally, they have been broken down into general and psychological barriers. Implementation strategies have received less study, but literature reviews show clear patterns where strong implementation strategies have not been planned and/or followed by organizations.

Funding, ongoing professional development for instructors, limited equipment and access to networks, and a naiveté that leads to ignoring the political realities of the organization are some of the root causes for less successful adoption of distance learning. The lack of needs assessment documentation, strategies for adoption, planning instruments, and involving the entire organization in planning are also problems.

While many organizations seem to have taken a careless approach to implementation and adoption of distance learning, there are clearly many other organizations whose leaders are clearly ignoring the change in education and

training on all fronts. Instructors are still using traditional teaching methods, no technology exists in the classroom except chalk and a blackboard, instructors do not use computers, e-mail, or have any idea how to present information to students whose learning style may not match their teaching style.

Many of these now point at the educational technology "no significance difference" research as the reason not to use educational technologies. They ask, "Why spend the money, if there is no difference in learning?" A sound management approach, but it is based on a misinterpretation of the research. They are not looking at the use of multiple educational technologies research which

does show a significant difference in learning. Learners who have access to resources presented through a variety of learning technologies do show improvement in learning and other indicators of change and improvement.

Most of the "no significant difference" research is based on the use of one technology -- television in its many forms. Many of the studies are of instructors who continue to lecture on television, and become what the industry calls a "talking head." The information that should be gleaned from the "no significant difference" research is that talking heads on television do not make a significant difference in the learning.

General Barriers to the Use of Educational Technology

A number of barriers to the use of educational technology have been identified in recent years. They include:

- Lack of information about technology (Baer 1978)

- Length of time for widespread use (Baer 1978)

- Inappropriate match - technology and service (Lucas 1978)

- Panacea approach with technological solution (Benne 1975)

- Machine mysticism (Pacey 1983)

 - Misperception: Technical advance leads progress

 - Myth: Cultural lag occurs everywhere as we try to keep up with progressive technology

 - Use technology to answer new patterns of problems

- Lack of money (Dirr in Barron 1987)

- Lack of faculty commitment (Dirr in Barron 1987)

- Lack of trained support staff (Dirr in Barron 1987)

- Faculty Concerns (Barron 1987)

 - Class size

 - Discussion and face-to-face involvement

 - Lack of support for faculty from peers/instructors

- Hands-on experience for students in subjects such as chemistry

 - Reality: More students are performing chemistry and physics experiments before computer keyboards instead of laboratory benches.

- Lack of face-to-face interaction

 - Perception: Benefits are assumed to accrue from personal interaction

Psychological Barriers to the Use of Educational Technology

A number of psychological barriers to the use of educational technology have been identified. In addition to "It's never been done that way before," other

psychological barriers include suspicion and fear of change as well as telephobia which is a suspicion of change which involves television. Others fear that they will make a fool of themselves in front of their peers. "People who have watched TV

for 20 years have built up all kinds of cultural expectations about people...on the screen. They expect to see a polished performer reading a script without a hair out of place. In contrast, executives or managers on a videoconference tend to have their ties askew, don't always look at the camera ..and seem unsure of what to say" (E. C. Gottschalk, Jr., Wall Street Journal). Goldstein (1991) says that he is certain that the "move from the tutorial to the lecture that accompanied the rise of the modern university was greeted with similar outcries. I am equally certain that the differences in learning outcomes are as overstated today as they were then."

Education television and videoconferencing have been categorized as only hype or show biz and there is still an unsubstantiated fear that television may only entertain rather than inform. "As long as that attitude exists, teleconferencing will be limited to that use...there must be a recognition that teleconferencing is used not in a show biz environment but in a day-to-day environment, married to applications" (Jack Fox, Western Union).

Distance learning is perceived as being somehow fundamentally different from traditional instruction. What is the difference between a live lecture delivered to 600 students in a campus lecture hall and the same lecture delivered over a telecommunications system? This is an "intellectual trap" that leads us to believe that distance learning is so inherently different from what we have come to define as traditional instruction that it demands entirely different rules or it cannot possibly meet the established standards and therefore it is not worth fixing (Goldstein, 1991).

While distance education has become well established, there is still skepticism within the academic community about whether this form of education is of comparable quality to the more familiar classroom-based learning, as well as opposition from those who regard it as a

threat to traditional faculty roles and classroom enrollments (Reilly & Gulliver, 1992). As long as regulators and accreditation agencies continue to apply measures intended for classroom-based instruction to distance education, the skepticism will be reinforced. This uneasiness with distance education is heightened by the sense of a "competitive threat from the entry of an 'outside' institution into a state. The 'Not Invented Here' syndrome reflected in this response is one of the greatest potential barriers to the national expansion of distance education" according to Reilly and Gulliver.

Others noted that television does not transmit a personal high touch environment, but is a cold, high tech medium which loses body language, chemistry, electricity, does not maintain a lengthy audience attention span, is not interactive, is known for low quality. In addition to those problems, educators have noted that it lacks central grading, testing and measurement elements.

The advantages of educational technology have been noted as being cost efficient, providing access to programming and having the ability to enrich education (Seidman, 1986; Wilson, 1987; Lewis, 1985).

Strategic Planning for the Implementation of Distance Education Programs:

The literature lists major barriers to implementation (Pearson, 1990). Lack of successful institutional planning for the delivery of distance education programs at educational institutions represents a major barrier to implementation and success. The problem is that there was no validated process for planning for implementation of successful distance education programs. Pearson's study determined what critical factors leaders of successful distance education programs considered to be important prior to, during, and following implementation of the program at their institution.

Thirty administrators in education, distance education specialists and program providers were invited to participate in a three round Delphi to determine the 20 critical factors that should be considered in the planning process to implement a

distance education program at an educational institution. The 30 key leaders were asked with each Delphi round to refine and rank those critical factors that they listed. The final round produced 20 critical factors in rank order.

Table 1: Critical Factors in Rank Order

1. Identified need (perceived or real) for the program.
2. Faculty and teachers supportive and given incentives for motivation.
3. Funds for capital costs; production, equipment, facilities.
4. Availability of on-going money for operations and expenses.
5. Quality of the educational content of the program (evaluation).
6. Adequate support staff to produce the program.
7. Ensuring equivalent learning experience to remote students.
8. Enthusiasm and belief by the institution in the overall distance education project.
9. Identification of a visible, spirited key leader/administrator initiating program.
10. Adequate receive sites, facilities, and staff.
11. Availability of appropriate and specialized equipment to deliver the programming.
12. Sufficient time for careful needs analysis; Identify the range of services and programmatic needs of students. Example: Number of people, type of courses, ages served, location.
13. Ensuring equivalent status for remote students: i.e., credit, degree.
14. Instructional design and TV production: the interactive components, length, frequency and number.
15. Identification of a marketing plan for the network, system or program.
Public relations with the public.
16. Cost effectiveness: feasibility and justification for delivery system to students and institution.
17. Identified or gathered support/partners for the program: industry, corporate, legislative, institutional.
18. Ensure continued credibility of the program with the public, faculty, students, and supporters.
19. Knowledge of educational administrators, teachers and staff at educational institutions on what distance education is and how to teach and use it effectively.
20. Ability to accredit courses, offer credit or transfer credit across states or institutions.

Panelists also indicated that the factors were dependent upon each other for the ultimate success of the implementation of the program. The critical factors they generated contained a planning model which included the steps of purpose, philosophy, organizational structure, people, finances, equipment and facilities. The experts indicated that successful implementation depended upon the completion and thorough investigation of each of these critical factors.

The model set a high priority on human and fiscal resources that can serve as a

model for the strategic planning of administrators of new programs in long distance instruction. Planning for the implementation of the program requires a major investment in time, people and funding. Serious consideration should be given to the number one critical factor: "identification of the need for the program." All the experts agree that without this identified need, an institution should not move ahead to purchase equipment, hire people, or even think about delivering a long distance program. Faculty involvement, incentives, motivation and training were

ranked as serious issues for these successful institutions. According to these experts, the educator is a high priority in the delivery of long distance coursework. While the fear of teachers being replaced by the

technology appears to be an overriding concern and barrier for many institutions, the importance of the teachers remains critically high in the electronic classroom.

Table 2: The Strategic Plan - Steps for Change

I. Decide to Plan for Change:	Awareness
<ol style="list-style-type: none">1. Key Administrators2. Super Leader3. Understand Elements of Change<ol style="list-style-type: none">a) Flexible Environmentb) Policyc) Philosophyd) Leadership	
II. Recognize a Real Need vs Perceived Need:	Interest
<ol style="list-style-type: none">1. Identify the Recipient2. Why Have the Program? Who wants and who needs the program?3. The Competition: Who Else Is Doing It?4. Is the Program Really Needed?	
III. Understand the Real Reason for Implementation:	Advantage
<ol style="list-style-type: none">1. Value to the Organization2. Political Issues Involved3. Technology or Need Driven4. Competition Driven for Competition's Sake5. Philosophy of the Program6. Culture of the Organization Affects the programs: Political issues involved	
IV. Mission of the Organization:	Evaluation
<ol style="list-style-type: none">1. Does the Programming Fit the Organization's... Goals, Objectives, Quality Standards2. How Will This Help the Organization? If it won't, don't!3. What is the Driving Force to Market the Program?4. Will it Make Money?5. Will It Be Self Sufficient?6. How Large Do We Want It to Become?7. What Is the Return on the Investment ?	
V. Plan the Program:	Trial
<ol style="list-style-type: none">1. Time - Take the Time to Plan2. People - Faculty/Staff3. Space, Facilities, Equipment4. Production Capability5. Money - Now & Later	

VI. Review What the Organization Does Now:

Observability

1. Will Distance Learning Duplicate Services?
Classes, Staff, Departments
2. Is the Organization Working Well In Training & Education
3. Does the Organization Support Education & Training, Change, Technology
4. Do We Have Enough People and Support to Add Change?
5. What Are the Organization's Strengths and Weaknesses

VII. The Gap:

Compatibility

1. How Far to Go to Have a Successful Program
2. Will the Organization Be Able to Change
3. Subtract the Difference Between.... Where We Want to Be

$$\frac{\text{Where We Want to Be} - \text{Where We Are Now}}{\text{The Gap}}$$
4. Can We Do It?

VIII. Contingency:

Pre-adoption

1. Trial & Pilot
2. Flexibility
3. Client Needs
4. Institutional Perceptions
5. Success vs. Failure. What happens if...it won't, doesn't, can't, or if it is better or different

IX. Implementation:

Adoption

- Commit to the Ongoing Process
1. Lead People
 2. Design Programming
 3. Train in...Production techniques and Technology
 4. Faculty Support
 5. Dollar Support
 6. Continued Resources - Finance the Program
 7. Plan for Change, Growth and On-going Growth
 8. Believe in the Program
 9. Garnish Support Again and Again
 10. Evaluate the Program

Conclusion

Follow: All Steps of Change and All Conditions of Success

Reference

Pearson, Virginia W. (1989). "Critical Factors considered in the Planning for the Administration and Implementation of Long Distance Interactive Video Instruction." Oklahoma State University