

Distance Education at Virginia Tech

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Introduction

For nearly fifteen years Virginia Tech has been actively involved in distance education. During this time there has been interest in expanding this effort and several extensive studies have been conducted to support this interest. Those reports have identified, consistently, similar recommendations for the advancement of distance education at Virginia Tech. While this report reveals these same basic findings, a superset of problems fundamental to these issues has been identified as well. First, there seems to be a lack of a systems approach to distance education at Virginia Tech. Secondly, there is no focused commitment to a goal involving the expansion of distance education at Virginia Tech. Finally, there seems to be a lack of addressing the cultural issues surrounding the administration of a distance education system. This report will try to outline these issues and make recommendations toward their resolution. For completeness, some of the recommendations cited in previous reports as revealed by this study are summarized. Finally, there is an attempt at partitioning the problem of expanding distance education at Virginia Tech into three scenarios which will be analyzed given the above recommendations. To begin, however, a definition of distance education is proposed.

Towards a Definition

The term *distance education* is often debated with the hope of capturing, in a single phrase, the complete sense of this area of education. This report adopts the term *distance education* and identifies it according to the work by Keegan (1986). Keegan partitions this area of education into two parts. The first is *distance teaching*, which is that part of the education process involving the instructional agent and corresponding support staff, technologies, and methodologies. The second part is *distance learning*, which involves the learning agent and the surrounding circumstances and attributes of this agent. Keegan suggests $(distance\ education) = (distance\ teaching) + (distance\ learning)$. In this way,

the two essential components of the educational process are identified and separated and then reunited into a new term. This division of the problem will be very useful in the subsequent discussion of a systems approach to distance education.

Having established and justified the use of a single term, Keegan proceeds to define this term. His definition is included in its entirety below (Keegan, 1986, p49-50).

Distance education is a form of education characterized by

- the quasi-permanent separation of teacher and learner throughout the length of the learning process; this distinguishes it from conventional face-to-face education.
- the influence of an educational organization both in the planning and preparation of learning materials and in the provision of student support services; this distinguishes it from private study and teach-yourself programs.
- the use of technical media; print, audio, video, or computer, to unite teacher and learner and carry the content of the course.
- the provision of two-way communication so that the student may benefit from or even initiate dialogue; this distinguishes it from other uses of technology in education.
- the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals and not in groups, with the possibility of occasional meetings for both didactic and socialization purposes.

In addition there are two socio-cultural determinants which are both necessary pre-conditions and necessary consequences of distance education. These are:

- presence of more industrialized features than in conventional oral education.
- the privatization of institutional learning.

The first part identifies the characteristics of separation, organization, and technology.

The separation can be both in distance and in time and includes separation from the instructor and from the other members of the course. The organizational issue is included in this definition in all its forms: support structure, course development and delivery, and system planning. These issues are recurrent throughout discussion in distance education and will be covered briefly in this report.

The second part of this definition merits some discussion. The industrialized features include the administration, facilities, and support infrastructure required for distance education programs. While these attributes exist for traditional courses, they do not need to be as clearly defined as in a distance education system. In fact, many are performed directly by the instructor rather than through separate agents (e.g., course administration, course material delivery, etc.). The “privatization of institutional learning” refers to the students’ ability to choose the time, place, and circumstances of their learning more than in traditional courses. This translates into a system that better meets the needs of the individual’s learning style.

Recommendations for Expanding Distance Education at Virginia Tech

Expanding into a large distance education program requires strong leadership. The burden of providing this leadership rests on both the faculty (in course development and delivery) and on administration (in building a supporting infrastructure and providing adequate incentives and rewards to faculty). However, there also must be some cohesive commitment on which to establish this leadership, and this commitment must be consistent with the University’s values and overall mission. For these reasons, the recommendations of this report are:

1. Adopt a systems approach to distance education.
2. Establish a level of commitment to distance education to be implemented uniformly throughout the university.
3. Acknowledge and plan management of necessary cultural changes.

Finally, there is a brief listing of and reference to more pragmatic recommendations resulting from interviews with Virginia Tech leaders in this field. It should be emphasized, however, that each of these is a subset of one of the above three primary recommendations.

Recommendation 1: Adopt a systems approach to distance education.

“. . . teaching [is] a system with inter-relating subject-systems such as needs, goals, presentations of learning matter, interaction with students, media/student assessment, evaluation, etc.” (Holmberg, 1989)

It is the assertion of this report that distance education is a system with interdependent parts and for that reason, it must be managed as such. To emphasize this, an attempt will be made to identify these parts and to show the way in which they rely on each other. Then a focus for this system will be identified.

The distance education system can be divided into three major sub-parts (partially based on the distance education definition above): distance teaching components, distance learning components, and system process components. The distance teaching components represent those involved in the development and administration of courses. These include: (adapted from Sherry, 1994 & 1996)

1. administrators
2. technology coordinators
3. faculty providing instruction
4. site facilitators
5. service providers
6. support staff:
 - a) editors
 - b) designers
 - c) producers
 - d) technicians
 - e) media specialists

- f) local tutors
- g) aides

The delivery of a distance based course would be incomplete without any one of these positions. The distance teaching component is a subsystem composed of the instructor who is supported by the technology with administration coordinating the two.

The distance learning components consist of the learners (students) and their surrounding circumstances and attributes. Sherry emphasizes the following circumstances and attributes of learners (1996):

1. ages
2. cultural and socioeconomic backgrounds
3. interests and experiences
4. educational levels
5. familiarity with distance education methods and delivery systems

Each of these characteristics plays a significant role in the learning experience of the learner and, therefore, must be involved in any consideration of the distance education system. As an example of their connection with the distance education system, consider the effect of a learner's cultural background, interests, and education level on their choice of geographic residence. Further consider how their familiarity with distance education methods affects their willingness to take such a course. Age contributes further to this demographic profile of the learner and places a further constraint on their likelihood to migrate to another location for education. These all taken together build a picture of the estimated demand a given learner will have for distance education. As the market is composed of all learners, this information can be used in determining the market demand for distance education, which is a very important consideration in the planning of a distance education system.

Finally, there are the system process components. These are the activities in which the distance teaching components are involved. These components form the basis for the distance education system. Adapted from Holmberg (1989), they include:

1. planning
2. developing course materials
3. providing for instructive communication
4. counseling students
5. creating suitable organizational structure
6. administering : course development, course material distribution, instructive communication, counseling
7. continual evaluation and refinement of the system

Though there is some linear structure to the procession of these parts, it is not entirely a step-by-step process. The planning (analysis), administration (synthesis), and evaluation are recurring throughout the stages of the system's development (Holmberg, 1989). It is this recurring interplay among these seven parts that establishes this as a sub-system of the distance education system.

Distance education at Virginia Tech demonstrates these components. Our administrators, faculty, technologists, students, and processes of serving these students are very analogous to and can be dissolved into these component parts. For this reason, and due to the complexity of the problem, it is imperative that Virginia Tech recognize the benefits and costs associated with changes in each of these parameters. This is currently not done. Virginia Tech has multiple initiatives which function separately from each other and neither recognize nor take advantage of their relevance to each other.

In addition to identifying and capitalizing on the system nature of distance education activity, Virginia Tech must also associate with this system a concise focus. This report suggests the emphasis be on learning. Having stated this, an important distinction should

be made between “learner-centered” systems and “learning-centered” systems. To maximize the benefits of system behavior, it does not seem appropriate for the focus of a system to be one of its own parts (i.e., the learner), instead it should focus on its mission. As commented by McGreal (1993, p7), “by focusing instead on ‘learning,’ the real needs of the learner, the teachers, and other parties can all be dealt with.” The evaluation and refinement stage of the system process component must evaluate the degree to which all participants in the educational system are satisfied with the outcomes, including students, faculty, administrators, site facilitators, communities, support staff, technologists and any others involved in the system (McGreal, 1993).

Recommendation 2: Establish a level of commitment to distance education to be implemented uniformly throughout the university.

In interviewing staff members at Virginia Tech involved in distance learning initiatives there was agreement that Virginia Tech’s administration was committed to implementing a campus-wide technology plan, but it also was agreed that there seemed to be a lack of leadership (see appendix A, key issue 2). It is the assertion of this report that one reason for the lack of leadership is the lack of a focused goal. It seems Virginia Tech lacks identification and specification of a *level of commitment* to distance education. When developing a plan from which to base leadership, a major factor is the scale of the plan. If this has not been determined, it is difficult to establish a strong plan. Without a strong plan, it becomes difficult to consistently lead in the same direction a system as complex as distance education.

To establish a level of commitment, Virginia Tech should:

1. Conduct a needs assessment of the distance learners (market demand)
2. Identify Virginia Tech’s strengths

3. Conduct a *total* cost analysis of meeting or not meeting these needs to include costs to:
 - learners
 - faculty
 - university
 - society

The level of commitment will be at the point where these three sets of data converge. That is, there must be a common set of needs that Virginia Tech's strengths can address within its perception of total costs. Based on this analysis, a specification of a high, medium, or low level of commitment should be made. Subsequent planning should scale itself to this specified level. Later in this report an outline will be presented exemplifying these three commitment levels.

It should be noted that the evaluation and refinement stage of the system allows for moving between levels. This is essential given the dynamic nature of the market and the system.

From this designated level of commitment, a strategic plan can then be developed. However, caution should be observed when developing strategic plans. This discussion is adapted from Rumble (1992). Strategic plans are designed to be blueprints for the future (3-10 years) and are to be used to manage strategic issues. However, this rarely happens since the analysis leading to the plan is typically based on:

1. demographic trends
2. market size
3. market growth rates
4. political trends
5. government legislation
6. technological trends

7. costs

Among these, only a few can be predictably forecast (e.g., cost). For this reason, long-term strategic plans often fail to identify valuable opportunities or unexpected expenses since they did not exist at the time of the planning. However, such planning is very valuable since a critical step is that of articulating a mission and vision based on core values. These provide a strong, cohesive force to the sub-parts of the system. This leads to three conclusions concerning strategic planning:

1. Rely less on the long term planning value of strategic plans.
2. Emphasize the steps involving articulation of missions and visions.
3. Continually apply the evaluation and refinement stage to this strategic plan.

Recommendation 3: Acknowledge and plan management of necessary cultural changes.

Distance education is laden with ideas and processes that are counter to traditional education. It requires the explicit planning of activities that are internalized by the instructor in traditional courses (e.g., course design, course material distribution, course delivery). Therefore, distance education must be accompanied by changes in (see appendix A for a discussion of each of these):

1. administrative perceptions and structures
2. teaching paradigm
3. incentives and rewards structure to faculty
4. degree of interdisciplinary collaboration

These qualities are embedded in the culture at Virginia Tech and, for this reason, are the more difficult changes to affect. It does not seem that Virginia Tech has been successful in its efforts to retrain its culture. This is concluded from the survey results of distance

education staff who indicated the resistance to culture change as a major problem (see appendix A, key issue number 2),

The examples of this problem are numerous. The many distance education initiatives that duplicate efforts are a result of lack of collaboration. The lack of a centralized coordination of distance education efforts are a result of poor administrative structures that work well for traditional education but fail for a distance based system. The dominant use of satellite transmission of courses resists new teaching paradigms and so precludes less expensive means of conducting distance education. The resistance by faculty to participate in distance education course development and delivery (e.g., MBA program) is a result of poor support structures and inadequate incentives for these faculty to augment their current work load.

The 1996-2001 Update to the University Plan already actively embraces culture change, particularly in the area of increased interdisciplinary collaboration. This integration of culture change into a vision will be very helpful. However, now the faculty must be convinced that these words are meant. There must be administrative changes that reflect this and there must be efforts to market this to the faculty. Some such efforts were outlined by the Provost's Steering Committee on Distance Education (Jan. 4, 1996) in the recommendations for disseminating its results [contact Linda Leffel for minutes of this meeting]. The changing of its culture will be the most challenging effort in implementing a distance education system at Virginia Tech. Perhaps the most vital step in initiating this change would be the implementation of a distance education system with proper incentives and rewards.

Other Recommendations

Appendix A lists additional recommendations derived from interviews with staff members involved in distance education at Virginia Tech. They are essentially implementation level statements of the above three recommendations with summarized comments from the participants. Appendix B includes aggregate data from the education staff interviews and Appendix C includes aggregate data from surveying the Faculty Senate.

Scenarios of Commitment Levels

To illustrate the commitment levels mentioned above, three levels of commitment have been chosen: high, medium, and low, corresponding to the titles of pacesetter, progressive, and amateur respectively. The goals for optimal performance are to:

1. Maximize the percentage of distance learners’ needs which are met,
2. Maximize the percentage of Virginia Tech’s strengths which are utilized, and
3. Minimize the *total* costs to all parties involved including
 - Learners
 - Faculty
 - University
 - Society

Figure 1 summarizes example ranges for each of these criteria.

	Commitment Level	Percentage of Needs Met	Percentage of Strengths Utilized	Agents For Whom Costs Are Minimized
Amateur	Low	> 80	> 80	L, F, U, S
Progressive	Medium	10-80	10-80	L, F, U
Pacesetter	High	< 10	< 10	F

(L=learner, F=faculty, U=university, S=society)

Figure 1

This is a highly subjective ranking system that is not meant to be the rule but rather an extreme that emphasizes the tradeoffs associated with certain goals. For example, the

“1996-2001 Update to the University Plan” states the vision of Virginia Tech becoming a leader in the use of technology in education. If this were interpreted to include distance education, then such a Pacesetter goal would be a very expensive level at which to begin. Associated with a complex system, such as a distance education system, is the need for both a technology and staff infrastructure. This infrastructure is best developed in a step-wise manner (supportive of the evaluation and modification phase of the systems approach). For this reason, it would be to Virginia Tech’s advantage to begin at the Amateur level and build up to the Pacesetter level. Failure to comply with this step-wise development would defeat the systems approach. While Virginia Tech would probably be classified at the Progressive level if its completely television based initiatives were the sole source of consideration, such an evaluation of its distance education system would ignore the various other methods of distance education delivery, which have been identified as less costly. Therefore, to decrease costs, these other teaching paradigms must be explored. However, their implementation requires changes in the three major sub-parts of the distance education system as mentioned above. Therefore, the processes of needs analysis, maximization of strengths used, and minimization of total costs to all parties should dictate the system to be developed. If this system is drastically different from the status quo, then it would be necessary to revert back to the Amateur level to develop this system and its infrastructure.

Conclusion

Distance education is a complex topic requiring a form of analysis which supports interdependence and inter-relations on parts. The problems associated with necessarily interdependent parts can be alleviated through a systems approach. Therefore, Virginia Tech should analyze its expansion efforts in this area of education under a systems methodology. Additionally, there are many other problems which beset Virginia Tech in expanding its distance education initiatives. While many reports have been issued

cataloging many of these problems, they have to a great degree failed to identify the common thread of these problems: the resistance of Virginia Tech's culture to change. To begin solving this problem, a distinct level of commitment to distance education and the consequences of this must be identified. It is only at this point that more pragmatic problems can be solved.

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Appendix A

Survey of Issues in Distance Education at Virginia Tech: Key Issues

Participants in Survey:

Bruce Chaloux

Associate Dean, Extended Campus Graduate Program

Tom Head

Director, Media Services

Ron Johnson

Associate Dean/International Programs/MBA

Harold Kurstedt

Special Assistant to the Provost for Outreach

John Moore

Director, Educational Technologies

Bill Murphy

Coordinator, Extension Program Development and Distance Education Specialist

Terry Wildman

Director, Center for Excellence in Undergraduate Teaching (CEUT)

Introduction

The purpose of this survey is to gather information on the state of the many distance education initiatives at Virginia Tech and to isolate the key concerns in this area as perceived by the leaders of distance education at Virginia Tech. The information summarized here was gathered through a series of interviews of the above listed participants. Given the nature of this survey, it is not the sample size that is important but rather the qualifications of those interviewed that should be carefully considered.

Following each of the identified issues are comments which summarize the reactions of the above participants. Each of the issues identified below are linked to survey questions listed in Appendix B as indicated by the “Related survey question” comment. There was unanimous agreement from all surveyed on the recommendation following the first six cited issues.

1. Distance Learning Mission

Recommendation: Virginia Tech should increase its level of effort and investment in distance learning.

Related survey questions: 36, 38, 41

Comments:

- Virginia Tech needs to determine the market that matches our strengths for this form of education and actively pursue this market.
- One method of achieving this goal: find faculty that are willing to teach in a new way and provide them with adequate support structures and rewards for their efforts.
- Virginia Tech should increase its investment in the technology infrastructure, staff support efforts, and commitment to faculty release time for course development.
- More classroom space in remote offices is needed to increase room for growth from other departments not currently offering DE courses but interested in doing so.
- Virginia Tech should capitalize on this technology to help further its land grant mission of extension as well as to underscore its continuing education efforts.

2. *Coordination and Administration of Distance Learning Systems*

Recommendation: Virginia Tech should better coordinate distance learning activities, with the dual objectives of sharing resources and facilities, and formulating and working toward a common goal.

Related survey questions: 2, 4, 21, 34-37, 41

Comments:

- It is the general opinion that our culture and bureaucracy are the major impediments to furthering our distance education efforts. There was no clear perception of leadership or coordination of efforts and the support infrastructure.
- There is a perception of duplicated efforts due to the lack of proper centralization.
- Strong control over course work should remain in the departments.
- There should be a high level administration position coordinating these efforts. It was mentioned that many universities with extensive DE programs have a Vice President for Distance Education.
- There should be centralization of resources and support facilities and decentralization of curricula (e.g., there should be a single point of contact providing course development and delivery support for all interested in delivering a DE course). This would also resolve the issue of faculty who want to develop distance education courses but are unaware of the available resources for doing so.
- Course development should be transparent to faculty: they should be enabled to focus on teaching.
- Distinction is needed between administration of for-credit and not-for-credit course. There also should be identification of a market niche for Continuing Education and/or

Extension Education. When scheduling not-for-credit and for-credit courses, conflicts always favor for-credit courses. It must be explored whether this distinction should continue in DE.

3. Reward and Incentive Structure

Recommendation: Virginia Tech should provide additional incentives, as part of the reward structure and through special teaching/learning grants, to faculty to work toward high quality distance learning.

Related survey questions: 3, 20, 22, 25, 26, 37, 40, 44

Comments:

- The issue is: Faculty are already very busy and rewarded for what they do. Why then would they want to exert extra effort for courses that provided no suitable compensatory reward? The total rewards to DE course development need to be comparable with those of traditional courses.
- This would provide a much needed incentive for faculty to become involved in these efforts. Some faculty that were mandated to do distance education (and not pursuing it on their own initiative) resisted this form of education. This is attributed to the fact that it was presumed to be a part of their regular course load with no additional incentives or training/support to compensate for the increase in work..
- Recommended by one participant: 1) Six months (minimum) release time for faculty developing a new DE based course, 2) Promotion/tenure review guidelines strongly consider the time and energy required for such course development, 3) Consciously eliminate disincentives for DE course development.
- It was suggested that extensive research programs should be built around the entire distance education initiative which would provide incentives consistent with our culture and would serve to reinforce the quality of Virginia Tech's distance education initiatives.

4. Evaluation of Distance Education Systems

Recommendation: Virginia Tech should develop evaluation methods and instruments for distance learning courses, and these should be employed in connection with faculty evaluation and review.

Related survey question: 5

Comments:

- This requires reassessing what should be asked on ALL evaluations, not just DE. We must reestablish what part of learning is important and what are the important factors in the learning process.

- The issue here is (generically) evaluation; the method of delivery is irrelevant in terms of the overall learning experience. The challenge is to evaluate adequately the learning process not teaching styles.
- It was emphasized by one participant that there should not be separate evaluation methods for distance education versus traditional education, but rather a consistent set of evaluations that cover the learning process with the method of delivery considered secondary.
- It is worth noting that currently the traditional course evaluation is given for distance based courses as well as an additional evaluation covering the delivery method. However, there is no evaluation in traditional courses of the delivery method (e.g., classroom temperature, class size, classroom lighting, usefulness of overheads vs. chalk boards, etc.). Already, evaluations do not consider some important elements of the learning process.
- Other aspects of learning need to be evaluated: 1) Social aspect of learning experience (association with other students, etc.), 2) Current student services (libraries, health, etc.) which is important in total cost analysis, 3) Access to faculty, 4) Timeliness of feedback, 5) Out-of-class learning.
- It also was emphasized that there should not be rating/ranking implied by these evaluations, simply assessment of the quality of education and these assessments should be used to improve the course.

5. Support Structure

Recommendation: Virginia Tech should develop a support structure for distance education, providing special assistance to faculty who are developing and teaching distance learning courses.

Related survey questions: 33-35, 39, 40, 42, 44

Comments:

- The current support structure is causing rejection of requests for course development due to the inadequate scale of our current support structure. Clearly, there is a need even now for increased development and growth of a support structure for distance based course development.

6. Participation in Consortia

Recommendation: Virginia Tech should actively pursue joint ventures with other institutions (e.g., universities, government agencies, and private sponsors) in the field of distance education.

Related survey questions: none

Comments:

- As a state university, we are inherently a member of a consortium, one of state sponsored institutions. Development of this connection with other universities is key to the development of a large scale system.
- It was suggested by one participant that this is inevitable: institutions of higher education will have an increasing smaller role in course development and “fact delivery” and an increasing role in applying/interpreting these facts to the students and then issuing credentials to the students.

Other issues/recommendations:

1. Support structures should include better registration mechanisms.
2. Remote sites not owned/managed by Virginia Tech require better management and staffing.
3. Delivery methods should be thoroughly tested prior to the beginning of the class and onsite technology support staff should be available.
4. More student perspectives on their experiences with DE other than the conventional evaluations are required.
5. There is concern for the DE method of delivering education displacing many current faculty positions.
6. Quality of education is a strong concern. (Related survey questions: 6-8, 10-16, 19)
7. There needs to be consideration of market conditions and competition. (Related survey questions: 17, 23, 27, 32, 43)
8. There needs to be consideration of total cost for both Virginia Tech and perspective students.

Comments:

- There is a high cost in the short run for establishing the necessary framework for DE.
- Virginia Tech’s current method of using satellite transmission is very costly and alternative methods of delivery should be sought.
- Initially, this is a very challenging domain for faculty, though students seem to assimilate better.

Appendix B

Survey of Issues in Distance Education at Virginia Tech: Individual Questions

SECTION A: PERCEPTIONS OF COORDINATION, COMPENSATION, AND EVALUATION

___ Q01. How many years of experience in education do you have?

1. Less than 5 years
2. 5 to 10 years
3. 10 to 15 years
4. 15 to 20 years
5. More than 20 years
6. I have never taught

All surveyed have greater than 20 years experience in education.

___Q02. How are faculty chosen to deliver courses via a distance format?

1. Chosen by administration
2. Volunteer
3. Other (Please elaborate)

The responses to this question were varied. All felt there was a hybrid between administration and volunteer selection. However, three people felt that administration played the strongest role and three others felt that there was more initiative being taken by those developing the courses.

___Q03. How are faculty compensated for developing and/or teaching a distance learning course at Virginia Tech? (Check all that apply.)

1. Distance learning course is part of regular load and no additional compensation
2. Release time
3. Extra stipend
4. Recognition for tenure or promotion
5. Other (Please elaborate)

The strongest agreement was that recognition for tenure or promotion is not used. Three people felt that release time and extra stipend are the primary methods at Virginia Tech for compensating distance educators. Two people selected 1. One other selected 5 and explained: Distance education at Virginia Tech is perceived as a pioneering field and it is typical for such areas of activity to have minimal reward with the primary reward being the personal satisfaction of the pioneer (little external compensation from Virginia Tech).

___Q04. Who determines which courses will be taught using a distance format?

1. The person normally scheduling courses in the discipline
2. The dean
3. The faculty teaching the course
4. The person in charge of distance learning for the college
5. Other (Please elaborate)

Three people agreed that the dean's office directs this (with coordination from the department heads). One person felt the faculty teaching the course determined whether the course would be taught at a distance. One other felt that the objectives of the specific program was the driver behind this selection. One person had no perceptions of this issue.

___Q05. How are distance learning courses evaluated for effectiveness?

1. Student evaluation form
2. Student performance
3. Student performance in next course in sequence
4. Retention rates
5. Other (Please elaborate)

Choice 1 was the agreed upon response with the following additions: 1) there is currently some evaluation from a longitudinal perspective (choice 3), 2) there is comparison of on campus versus off campus performance in similar courses.

SECTION B: PERCEPTIONS ABOUT DISTANCE EDUCATION

Please indicate your level of disagreement or agreement with the following statements.

1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

Distance education (and associated methodologies) enable me to:

___ Q06. Enrich the content of courses

Strongly Disagree	0
Disagree	0
No Opinion	0
Agree	4
Strongly Agree	3

___ Q07. Teach more difficult/complex material

Strongly Disagree	0
Disagree	1
No Opinion	2
Agree	4
Strongly Agree	0

___ Q08. Distribute course materials faster and more efficiently

Strongly Disagree	0
Disagree	0
No Opinion	0
Agree	2
Strongly Agree	5

___ Q09. Spend less time lecturing

Strongly Disagree	0
Disagree	1
No Opinion	0
Agree	5
Strongly Agree	1

___ Q10. More successfully motivate students to learn

Strongly Disagree	0
Disagree	1
No Opinion	1
Agree	4
Strongly Agree	0
Note: W	

___ Q11. Tailor course content to individual needs

Strongly Disagree	0
Disagree	1
No Opinion	0
Agree	4
Strongly Agree	2

___ Q12. Engage students in active learning

Strongly Disagree	0
Disagree	1
No Opinion	1
Agree	3
Strongly Agree	2

___ Q13. Empower students to learn independently

Strongly Disagree	0
Disagree	0
No Opinion	0
Agree	4

Strongly Agree 2
Note: W

___ Q14. Share learning responsibility with students

Strongly Disagree 0
Disagree 0
No Opinion 0
Agree 5
Strongly Agree 1
Note: W

___ Q15. More successfully engage students in collaborative projects

Strongly Disagree 0
Disagree 1
No Opinion 0
Agree 4
Strongly Agree 1
Note: W

___ Q16. Spend more time with individual students

Strongly Disagree 0
Disagree 2
No Opinion 0
Agree 4
Strongly Agree 1

NOTE: W = Terry Wildman did not respond to this question.

SECTION C: REASONS FOR DISTANCE EDUCATION

Please indicate your level of disagreement or agreement with the following statements.

1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

Distance education (particularly when using the Internet) is important to me because:

___ Q17. Other colleges are doing it.

Strongly Disagree 0
Disagree 3
No Opinion 4
Agree 0
Strongly Agree 0

___ Q18. It is a fascinating and exciting way in which to educate.

Strongly Disagree 0
Disagree 0
No Opinion 1
Agree 4
Strongly Agree 2

___ Q19. Students need to use technologies they will someday use on the job and in their careers.

Strongly Disagree 0
Disagree 0
No Opinion 2
Agree 3
Strongly Agree 2

___ Q20. It provides me with self-esteem, recognition and/or rewards.

Strongly Disagree 0
Disagree 2
No Opinion 2
Agree 3
Strongly Agree 0

___ Q21. My employer wants me to do it.

Strongly Disagree	0
Disagree	1
No Opinion	2
Agree	3
Strongly Agree	1

___ Q22. It provides me with personal gratification.

Strongly Disagree	0
Disagree	1
No Opinion	1
Agree	4
Strongly Agree	1

___ Q23. Elementary and high school students are using inter-networking technology.

Strongly Disagree	0
Disagree	2
No Opinion	1
Agree	3
Strongly Agree	1

___ Q24. It allows me to experiment with a technology that can have many different uses and benefits.

Strongly Disagree	0
Disagree	0
No Opinion	1
Agree	5
Strongly Agree	1

___ Q25. It renews my enthusiasm about teaching.

Strongly Disagree	0
Disagree	0
No Opinion	1
Agree	4
Strongly Agree	2

___ Q26. It increases my confidence in my ability to use technology.

Strongly Disagree	0
Disagree	0
No Opinion	2
Agree	4
Strongly Agree	1

___ Q27. My colleagues are using it.

Strongly Disagree	0
Disagree	2
No Opinion	2
Agree	3
Strongly Agree	0

SECTION D: DISTANCE EDUCATION AT VIRGINIA TECH

Regarding issues and concerns about using information technologies such as the Internet and World Wide Web, please indicate your level of disagreement or agreement with the following statements.

1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

At Virginia Tech . . .

___ Q28. FACULTY lack access and opportunity to use the Internet.

Strongly Disagree	2
Disagree	3
No Opinion	1
Agree	1
Strongly Agree	0

___ Q29. STUDENTS lack access and opportunity to use the Internet.

Strongly Disagree	1
Disagree	3
No Opinion	0
Agree	3
Strongly Agree	0

___ Q30. Faculty resist changing their teaching methods and adopting new technologies such as the Internet and WWW for instruction.

Strongly Disagree	0
Disagree	1
No Opinion	0
Agree	5
Strongly Agree	1

___ Q31. Faculty lack technical support and resources to prepare course materials utilizing the Internet.

Strongly Disagree	1
Disagree	4
No Opinion	0
Agree	2
Strongly Agree	0

___ Q32. New information technologies will be used to reduce the number of faculty.

Strongly Disagree	1
Disagree	4
No Opinion	2
Agree	0
Strongly Agree	0

___ Q33. Faculty lack in-service training to use new technologies.

Strongly Disagree	0
Disagree	3
No Opinion	1
Agree	3
Strongly Agree	0

___ Q34. There is broad participation in campus technology planning and decision-making across disciplines and personnel ranks.

Strongly Disagree	1
Disagree	5
No Opinion	0
Agree	1
Strongly Agree	0

___ Q35. Faculty lack the time to develop instructional materials that utilize new technology.

Strongly Disagree	0
Disagree	3
No Opinion	0
Agree	2
Strongly Agree	2

___ Q36. Administration lacks the commitment to implement a campus-wide technology plan.

Strongly Disagree	0
Disagree	3
No Opinion	3
Agree	1
Strongly Agree	0

___ Q37. Faculty members are encouraged to use information technology.

Strongly Disagree	0
Disagree	0
No Opinion	1

Agree 5
Strongly Agree 1

___ Q38. Our campus technology plan reflects the institution's mission, objectives, and well-developed teaching and learning goals.

Strongly Disagree 0
Disagree 3
No Opinion 1
Agree 3
Strongly Agree 0

___ Q39. Resources are available to help faculty make the most effective uses of new approaches to teaching with information technology.

Strongly Disagree 0
Disagree 2
No Opinion 3
Agree 2
Strongly Agree 0

___ Q40. The implementation of distance education and the associated technology will increase faculty workloads (i.e., more preparation time, larger class sizes, etc.).

Strongly Disagree 0
Disagree 1
No Opinion 0
Agree 3
Strongly Agree 3

___ Q41. The integration and understanding of technology is expected and valued by administration.

Strongly Disagree 0
Disagree 2
No Opinion 0
Agree 5
Strongly Agree 0

___ Q42. There are staff development opportunities for faculty to learn how to use new technologies.

Strongly Disagree 0
Disagree 1
No Opinion 0
Agree 5
Strongly Agree 1

___ Q43. Online teaching may someday replace much classroom instruction.

Strongly Disagree 0
Disagree 3
No Opinion 0
Agree 3
Strongly Agree 1

___ Q44. Other faculty have opportunities through classes/workshops to learn about online teaching, but do not take advantage of them.

Strongly Disagree 1
Disagree 0
No Opinion 2
Agree 3
Strongly Agree 1

Appendix C

Survey of Issues in Distance Education at Virginia Tech: Summary of a Modified Survey Administered to the Faculty Senate

SECTION A: DEMOGRAPHICS AND EXPERIENCE

1. Rank/Title:

Associate Professor	5
Professor	5

2. Department:

AOE	2
CPAP	1
English	1
FLL	1
Food Science & Technology	1
Forestry	1
LACS, Vet. Med.	1
Music	1
Urban Affairs and Planning	1

3. ___How many years of experience in education do you have?

Less than 5 years	0
5 to 10 years	0
10 to 15 years	0
15 to 20 years	3
More than 20 years	1
I have never taught	6

4. Number of courses taught in a distance learning situation (give number of courses for each of the following):

a. ___	TV by satellite
b. ___	TV by computer network
c. ___	Audio conferencing
d. ___	Correspondence
e. ___	Travel to remote site
f. ___	Other:

* No aggregate results for this question.

5. Number of courses taught using advanced technology (give number of courses for each of the following):

a. ___	Internet
b. ___	WWW
c. ___	Email
d. ___	Bboard, USENET, listserv
e. ___	Multimedia
f. ___	MOO, Chat
g. ___	Collaboration tools
h. ___	Other:

* No aggregate results for this question.

For questions 6-10, answer only if you have been involved in distance learning courses.

6. ___How were you chosen to be involved?

Chosen by administration	2
Volunteer	0
Other (Please elaborate)	2

7. ___How were you compensated for developing and/or teaching a distance learning course? (list all that apply)

Part of regular load	2
Release time	0
Extra stipend	0
Recognition for tenure or promotion	0
Other (Please elaborate)	2

8. ___Who determines which courses will be taught using a distance format?

The person normally scheduling courses in the discipline	2
The dean	0
The faculty teaching the course	0
The person in charge of distance learning for the college	1
Other (Please elaborate)	1

9. ___On what basis were these courses selected?

Estimated large demand	1	0
Requests of a company or group of companies		0
Faculty recommendations	0	
State requests	0	
Other	3	

10. ___How was/were the distance learning course(s) evaluated?

Student evaluation form	2
Student performance	0
Student performance in next course in sequence	0
Retention rates	0
Other	2

SECTION B: PERCEPTIONS ABOUT DISTANCE EDUCATION

If you have applied advanced educational technology in one or more courses, please consider each of the following possible objectives and state to what extent your intention was to work toward that objective in one or more of those courses.

1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

Distance education (and associated methodologies) enable me to:

11. ___Enrich the content of courses

Strongly Disagree	0
Disagree	1
No Opinion	1
Agree	3
Strongly Agree	2

12. ___Teach more difficult/complex material

Strongly Disagree	0
Disagree	4
No Opinion	1
Agree	2
Strongly Agree	0

13. ___Distribute course materials faster and more efficiently

Strongly Disagree	1
Disagree	2
No Opinion	2
Agree	2
Strongly Agree	0

14. ___Spend less time lecturing
- | | |
|-------------------|---|
| Strongly Disagree | 2 |
| Disagree | 1 |
| No Opinion | 0 |
| Agree | 3 |
| Strongly Agree | 1 |
15. ___More successfully motivate students to learn
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 4 |
| No Opinion | 1 |
| Agree | 2 |
| Strongly Agree | 0 |
16. ___Tailor course content to individual needs
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 2 |
| No Opinion | 1 |
| Agree | 3 |
| Strongly Agree | 0 |
17. ___Engage students in active learning
- | | |
|-------------------|---|
| Strongly Disagree | 2 |
| Disagree | 2 |
| No Opinion | 1 |
| Agree | 2 |
| Strongly Agree | 0 |
18. ___Empower students to learn independently
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 2 |
| No Opinion | 2 |
| Agree | 3 |
| Strongly Agree | 0 |
19. ___Share learning responsibility with students
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 1 |
| No Opinion | 2 |
| Agree | 4 |
| Strongly Agree | 0 |
20. ___More successfully engage students in collaborative projects
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 1 |
| No Opinion | 1 |
| Agree | 4 |
| Strongly Agree | 1 |
21. ___Spend more time with individual students
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 2 |
| No Opinion | 2 |
| Agree | 2 |
| Strongly Agree | 0 |

SECTION C: REASONS FOR DISTANCE EDUCATION

Please indicate your level of disagreement or agreement with the following statements.
 1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

As a faculty member, distance education (particularly when using the Internet) is important to me because:

22. ___Other colleges are doing it.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 3 |
| No Opinion | 2 |
| Agree | 3 |
| Strongly Agree | 0 |
23. ___It is a fascinating and exciting way in which to educate.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 2 |
| No Opinion | 2 |
| Agree | 3 |
| Strongly Agree | 1 |
24. ___Students need to use technologies they will someday use on the job and in their careers.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 1 |
| No Opinion | 0 |
| Agree | 6 |
| Strongly Agree | 1 |
25. ___It provides me with self-esteem, recognition and/or rewards.
- | | |
|-------------------|---|
| Strongly Disagree | 4 |
| Disagree | 3 |
| No Opinion | 1 |
| Agree | 1 |
| Strongly Agree | 0 |
26. ___My employer wants me to do it.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 3 |
| No Opinion | 0 |
| Agree | 5 |
| Strongly Agree | 1 |
27. ___It provides me with personal gratification.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 2 |
| No Opinion | 3 |
| Agree | 2 |
| Strongly Agree | 1 |
28. ___Elementary and high school students are using inter-networking technology.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 2 |
| No Opinion | 4 |
| Agree | 2 |
| Strongly Agree | 0 |
29. ___It allows me to experiment with a technology that can have many different uses and benefits.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 1 |
| No Opinion | 1 |
| Agree | 4 |
| Strongly Agree | 2 |
30. ___It renews my enthusiasm about teaching.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 3 |
| No Opinion | 2 |
| Agree | 2 |
| Strongly Agree | 1 |
31. ___It increases my confidence in my ability to use technology.

Strongly Disagree	2
Disagree	2
No Opinion	1
Agree	4
Strongly Agree	0

32. ___My colleagues are using it.

Strongly Disagree	1
Disagree	3
No Opinion	3
Agree	2
Strongly Agree	0

SECTION D: SITUATION AND OPINIONS OF FACULTY AT VIRGINIA TECH

Please consider the current situation and prevailing opinions at Virginia Tech and indicate to what degree you agree with each of the following statements.

1-Strongly Disagree 2-Disagree 3-No Opinion 4-Agree 5-Strongly Agree

At Virginia Tech . . .

33. ___FACULTY lack access and opportunity to use the Internet.

Strongly Disagree	3
Disagree	7
No Opinion	0
Agree	0
Strongly Agree	0

34. ___STUDENTS lack access and opportunity to use the Internet.

Strongly Disagree	0
Disagree	8
No Opinion	0
Agree	2
Strongly Agree	0

35. ___Faculty resist changing their teaching methods and adopting new technologies such as the Internet and WWW for instruction.

Strongly Disagree	0
Disagree	1
No Opinion	2
Agree	6
Strongly Agree	1

36. ___Faculty lack technical support and resources to prepare course materials utilizing the Internet.

Strongly Disagree	0
Disagree	0
No Opinion	3
Agree	6
Strongly Agree	1

37. ___New information technologies will be used to reduce the number of faculty.

Strongly Disagree	0
Disagree	4
No Opinion	4
Agree	1
Strongly Agree	1

38. ___Faculty lack in-service training to use new technologies.

Strongly Disagree	0
Disagree	1
No Opinion	2
Agree	6
Strongly Agree	1

39. ___There is broad participation in campus technology planning and decision-making across disciplines and personnel ranks.
- | | |
|-------------------|---|
| Strongly Disagree | 1 |
| Disagree | 4 |
| No Opinion | 4 |
| Agree | 1 |
| Strongly Agree | 0 |
40. ___Faculty lack the time to develop instructional materials that utilize new technology.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 1 |
| No Opinion | 1 |
| Agree | 6 |
| Strongly Agree | 2 |
41. ___Administration lacks the commitment to implement a campus-wide technology plan.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 2 |
| No Opinion | 1 |
| Agree | 6 |
| Strongly Agree | 1 |
42. ___Faculty members are encouraged to use information technology.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 2 |
| No Opinion | 1 |
| Agree | 5 |
| Strongly Agree | 2 |
43. ___Our campus technology plan reflects the institution's mission, objectives, and well-developed teaching and learning goals.
- | | |
|-------------------|---|
| Strongly Disagree | 2 |
| Disagree | 2 |
| No Opinion | 3 |
| Agree | 3 |
| Strongly Agree | 0 |
44. ___Resources are available to help faculty make the most effective uses of new approaches to teaching with information technology.
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 2 |
| No Opinion | 4 |
| Agree | 4 |
| Strongly Agree | 0 |
45. ___The implementation of distance education and the associated technology will increase faculty workloads (i.e., more preparation time, larger class sizes, etc.).
- | | |
|-------------------|---|
| Strongly Disagree | 0 |
| Disagree | 2 |
| No Opinion | 1 |
| Agree | 6 |
| Strongly Agree | 1 |
46. ___The integration and understanding of technology is expected and valued by administration.
- | | |
|-------------------|---|
| Strongly Disagree | 2 |
| Disagree | 0 |
| No Opinion | 4 |
| Agree | 4 |
| Strongly Agree | 0 |
47. ___There are staff development opportunities for faculty to learn how to use new technologies.

Strongly Disagree	0
Disagree	3
No Opinion	1
Agree	6
Strongly Agree	0

48. ___Online teaching may someday replace much classroom instruction.

Strongly Disagree	1
Disagree	6
No Opinion	0
Agree	1
Strongly Agree	2

49. ___Other faculty have opportunities through classes/workshops to learn about online teaching, but do not take advantage of them.

Strongly Disagree	0
Disagree	1
No Opinion	6
Agree	3
Strongly Agree	0