Table 8. Measures of success of intercollegiate judging programs.

CHARACTERISTIC IDENTIFIED AS MEASURE OF SUCCESS	NUMBER OF TIMES MENTIONED
Development of skills and participation of students	21
Interaction with and exposure to industry	12
Success in competition	12
Student recruitment and outreach	3

Table 9. Skills enhanced by participation in intercollegiate judging programs.

IMPROVED SKILLS AND/OR OUTCOMES	TIMES MENTIONED
Communication ability	30
Logical decision-making	24
Industry knowledge	15
Teamwork/interpersonal ability	12
Product and livestock evaluation	9
Professional networking	8
Problem solving ability	7
Leadership	5
Time management	5
Commitment	3

A Case Study of Distance Education Programming in a College of Agriculture

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Abstract

With the incorporation of new communication technologies, distance education is being used by an increasing number of schools, colleges and universities. Many colleges of agriculture already have strong distance education programs, but other colleges are just starting their own programs. Therefore, with this continuing emphasis on teaching at a distance, colleges are learning or relearning how to deliver education programming. The University of Florida's Institute of Food and Agricultural Sciences (IFAS) was one such organization that had to evaluate its distance education effort.

This article examines how IFAS has developed its distance education effort, through a strategic planning process, to better meet the needs of students and faculty. The lessons learned and resulting actions will assist colleges of agriculture — both those with long-standing and new distance education efforts — as they determine how best to implement or reform distance education to accomplish their goals.

Introduction

American higher education's history always has been characterized by great change. In the nation's early years, higher education was comprised of small, elite colleges for the wealthy. Over time, higher education's focus shifted from providing education to the wealthy to providing education to

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all economic groups through public-supported universities. As the American population grew, its need for higher education grew. And as the country approaches a new century, it is likely that higher education will evolve even more (Duderstadt, J.J., 1997, paper presentation).

One area that education researchers and futurists acknowledge will evolve is how colleges and universities will provide information to people who normally have no access to a campus-based curriculum. To accomplish this, distance education — defined in this paper as two-way communication between teacher and student(s) who are separated by a geographical distance and/or time, where the communication is mediated by technology to support the educational process — is being used by an increasing number of schools, colleges and universities. With this continuing emphasis on teaching at a distance, colleges — including colleges of agriculture — learning or relearning how to deliver distance education programming. Surprisingly little literature on case study analysis of individual institutions associated with programmatic development of distance education has been reported. The purpose of this paper, then, is to provide a case study analysis of how the University of Florida's Institute of Food and Agricultural Sciences (IFAS), through academic programs delivered by the College of Agriculture and the Florida Cooperative Extension Service, developed its institutional distance education program through a strategic planning process.

Strategic Planning Process

Comer et al. (1996) noted that the strategic planning process is comprised of the following components: perceived needs, strategic planning, strategic thinking, strategic programming, implementation, and evaluation (Figure 1). A company develops a strategic plan by responding to perceived needs; its objective is to position itself to gain a competitive edge. In the strategic planning process, the company designs and implements what it perceives to be the best way to accomplish its objectives. When a college considers strategic planning, it also is responding to perceived needs. Both processes go through examination of the current situation; identifying opportunities and threats, strengths and weaknesses; creative thinking and idea generation; design of a strategic plan; and implementation of the plan. James Duderstadt, University of Michigan president emeritus, (1997, paper presentation) said higher education in the future will require a more strategic approach to change. He also said a strict, authoritarian, "top-down," decision-making approach will make way for academic administrators who facilitate, implement, and sell the transformation process to the faculty.

Strategic Planning

Done properly, strategic planning offers many ben-

efits: examination of alternative strategies, review of the situation with both a short and long run point of view, and consideration of resource allocation (Aaker, 1992). The danger is that it may bog down because of a failure to recognize that "strategic planning isn't strategic thinking" (Mintzberg, 1994). It is far too easy to fall into the pitfall of breaking down the goal into achievable steps without undertaking the strategic thinking necessary to synthesize and innovate.

Strategic Thinking

Administrators are good at working within the system. They look at the big picture and have the ability to provide the structure for the plan and to implement it. Carefully selected faculty can be ideal in the strategic thinking because they have insight into the problem from being closer to the day-to-day operation. Selecting and developing a charge for a task force is an effective method of accomplishing strategic thinking. Task force membership should include representation from a wide array of programs. Ample opportunity should be provided for faculty, staff, administrator, and student input. After all data are assembled and final reports published, the finalized task force reports should be sent to the appropriate administrator for implementation. The task force report should describe the current situation, issues and concerns should be identified, a vision for the future should be formulated, and recommendations developed. These visions and recommendations provide the strategic thinking for the change process.

Strategic Programming

Once the task force report is finalized and sent to the appropriate administrator, immediate steps should be put into place to develop a process for implementing the recommendations of the task force report. A strategic plan should be developed that would be used to implement the changes recommended by the task force. Someone should be responsible for reviewing the strategic plan, making modifications in the plan, and then overseeing the actual process of implementation. The revised strategic plan should be provided to faculty, administrators, and task force members for their review and suggestions. Every recommendation made by the task force should be addressed in the strategic plan.

Implementation

Once the strategic thinking process has been completed, it is time for the administrators to analyze the strategic ideas and/or recommendations to accomplish the vision and to determine and develop the strategic plan that will be implemented. At this point, administrators will have to make some of the tough decisions of how resources will be allocated,

Figure 1. Strategic planning process (Comer et al., 1996)
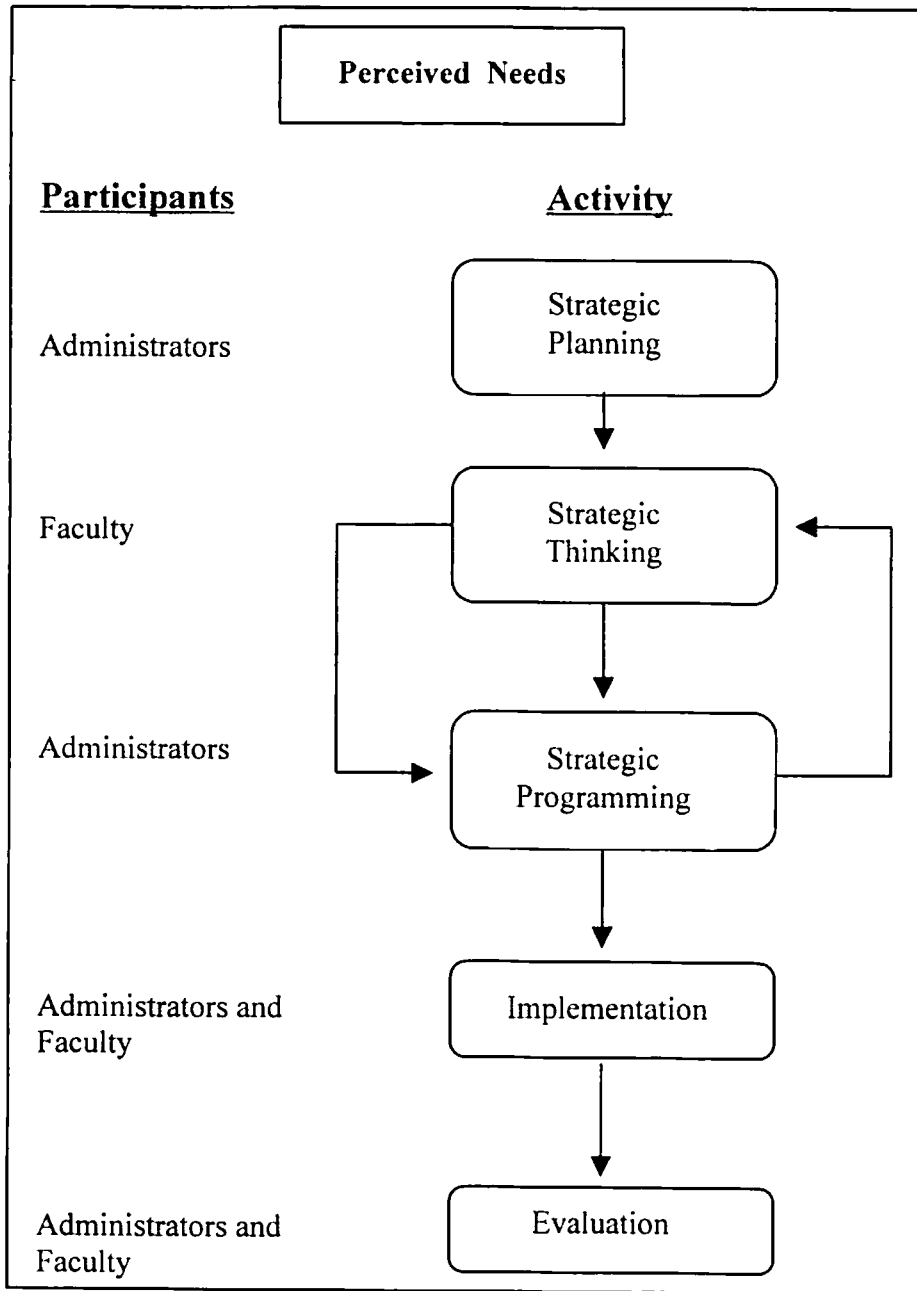
what is politically feasible and what is not, what may have to wait, and what can not be implemented. The implementation step must be carried out by administrators in conjunction with the support and cooperation of the faculty.

Evaluation

The last step of strategic planning is to evaluate the changes that have been made. Sufficient time must lapse before this can take place. An evaluation should be conducted to determine the effectiveness of the reform and to identify refinements that will need to be made.

Case Study of the Process

The case study can be divided into three programmatic areas: the creation of two task forces (Task Force on Off-Campus Instructional Programs and the Distance Education Task Force) to address specific issues in the college, the implementation of task force recommendations, and the evaluation of acted-upon recommendations.

Task Force on Off-Campus Instructional Programs

To determine the College of Agriculture's effective-

ness in providing off-campus instructional programs around the state of Florida, the dean of the College of Agriculture (COA) formed the Task Force on Off-Campus Instructional Programs in the fall of 1991. The task force drafted a position statement outlining that the off-campus program "should be structured so that faculty and students, irrespective of location, participate equitably in all facets of the University of Florida learning experiences" (Cheek et al., 1993, p. 2). To accomplish this, the task force evaluated the needed resources to complete off-campus teaching programs at three Research and Education Centers around the state, including the use of satellite and other remote delivery systems.

Task force membership included representation from an array of COA programs. The task force included two assistant deans for the college, a district Extension director, a Research and Education Center director, an Agricultural Experiment Station assistant dean, the director of IFAS's agricultural communications unit, and two faculty members. All faculty and administrators in IFAS were contacted via mail to solicit input, and faculty forums were held to facilitate further input and discussion. Task force draft reports were sent to faculty, department chairs, Research and Education Center directors, and undergraduate curriculum committees for review and reactions. The task force report, therefore, served as a "think tank" to generate ideas and recommendations for making improvements to off-campus instruction (Comer et al., 1996). General recommendations were made in the areas of technology-based educational delivery, criteria for selecting future off-campus educational sites, faculty incentives to teach off-campus, community college collaboration, correspondence study, and specific course off-campus offerings.

The task force also evaluated other states' off-campus instructional delivery systems. Common to all systems was the use of technology. However, as the task force concluded in its report, the University of Florida was "far behind many other land-grant universities in the use of the concepts and technology of distance learning" (Cheek et al., 1993, p. 6). The University of Florida did not and does not now have a fixed, permanent satellite uplink. Since the task force finished its work, IFAS has established a five-site compressed video (two-way audio, two-way video) system around the state. The task force also recommended that distance learning should be integrated into "the master plan for IFAS off-campus programs" (p. 6) and that Extension be encouraged to develop in-service training programs using the technology and systems.

Prior to the task force's creation, from 1989 to 1992 IFAS delivered four one-day Extension in-service training programs via satellite and no College of Agriculture courses. After the Task Force on Off-Campus Instructional Programs' recommendations, the college began offering semester-long courses via satellite. Nine courses — an average of two a

semester — were delivered by satellite between 1993 and 1996 to increase its off-campus course presence. Extension delivered five one-day satellite conferences from 1993 to 1996. However, IFAS did not have a systematic structure to determine or recommend which courses or Extension programs should be produced and delivered via distance education technology.

Distance Education Task Force

To address this lack of a systematic structure, the dean of the College of Agriculture and the dean of Extension formed the IFAS Distance Education Task Force in October 1995 to develop a comprehensive plan for IFAS's use of distance education into the next decade. The Distance Education Task Force drew from many of the Task Force on Off-Campus Instructional Programs' recommendations, specifically those pertaining to distance education technologies. As was its predecessor, this task force also was comprised of members from a broad range of academic disciplines and interests from across the college and Extension. Members included a COA assistant dean, a district Extension director, a Research and Education Center director, the director of IFAS's agricultural communications unit, and four faculty members. The task force examined the following issues: the specific teaching and extension subject matters which may be conducted through distance education methods and technologies; the types of programs to be offered (workshops, in-service training, academic courses, credit/non-credit offerings); the means whereby IFAS distance education efforts relate to the programs of other University of Florida units and state agencies, and the training, faculty support, and costs incurred in support of distance education.

To find out the faculty's views and needs pertaining to distance education, the task force conducted a survey to determine the types of programs, courses, or other activities IFAS could deliver via distance education technologies from 1 July, 1996, to 1 July, 1998. The questionnaire examined such areas as educational and support needs for faculty, technology that faculty envisioned being used to deliver education, a course's projected delivery date, and the course or program's target audience. The results showed which technologies faculty wanted to use, areas in which faculty said they needed training, and the particular audiences that would be interested in a course or program. The survey, then, provided the task force with baseline data with which to carry out its assigned mandate. In addition to gathering information through the survey, the task force also researched various technologies and their benefits or drawbacks, as well as conducted a literature review of distance education use at other universities and distance education's predicted future in higher education.

At the end of one year, members drafted a 32-page

document, recommending that IFAS focus on the following areas for future distance education needs: forming a Distance Education Committee, prioritizing course and program offerings, developing a support structure, designing methods for faculty incentives to develop distance education programming, developing distance learning materials, maintaining and developing physical (technological) and personnel infrastructure, developing a training program, establishing a marketing plan, and developing distance education linkages with other colleges at the University of Florida, state and federal agencies, and businesses (Cheek et al., 1996).

The draft document was provided to the deans, who made suggestions and comments. Afterward, the document was presented to several College of Agriculture and Extension faculty forums around the state to garner input from IFAS faculty. The document also was placed on the World Wide Web for faculty to view conveniently on their computers. Reaction to the recommendations from all parties 'was positive. Faculty told task force members they were pleased their comments were being considered in the task force's recommendations. The deans stated that the recommendations addressed the primary issues that they wanted the task force to examine (Cheek et al., 1996).

Implementation

Several of the Distance Education Task Force's recommendations were implemented before the final document was published and released in October 1996. The first of these "pre-recommendations" was the creation of a body of faculty and staff to oversee implementation of task force recommendations and distance education and off-campus instructional program delivery. The deans appointed a Distance Education Committee, which gathers information on the proposed academic courses and Extension programs to be offered, prioritizes programs and presents recommendations to the deans. The purpose of the committee, comprised of faculty interested in distance education production and delivery, is to provide a central location for interested faculty to make funding and informational requests about distance education programming in IFAS.

The task force also suggested that IFAS begin investing more in the acquisition of and improvement of infrastructure. After examining various technologies, investing in a fixed satellite uplink was deemed too costly for the benefits it would provide. Instead, IFAS has provided money to the university's News and Public Affairs unit, which owns a mobile satellite truck, to upgrade it from analog transmission to digital delivery. Also, IFAS is investing in two-way audio/video units at several Research and Education Centers across the state to provide real-time interactivity with campus-based faculty. In addition, IFAS has begun construction on a "mediated classroom," outfitted with a computer laboratory, that

would serve as a base for two-way or satellite-distributed programming.

Training of faculty to deal with the issues pertaining to distance education delivery also was a task force recommendation. During the task force data-gathering, several workshops were held that instructed faculty about distance education delivery and instructional design issues. More are planned for the future. A handbook on how to design distance education courses also was developed (Telg, 1996).

Perhaps one of the most important recommendations to come out of the task force report was the restructuring of the *UF/IFAS Policy on Distance Education*. The policy, written in 1994, defined distance education primarily as satellite-distributed technology, because at that time, satellite was one of, if not the, primary forms of distance education delivery. The Distance Education Task Force appointed a subcommittee to revise the policy to make it more broad-based in terms of technology, including World Wide Web, electronic mail, compressed video, computer "chat" software and CD-ROMs. The revamped policy, which focuses more on the educational process and less on a particular technology, recently was approved by the deans.

Other task force recommendations are being implemented as IFAS continues to improve distance education production and delivery. One such recommendation being examined is the development of a professional master's degree program delivered by technology. A new task force already is laying the groundwork for this degree. Other issues that will be addressed in the near future include off-campus staffing and training for site facilitators, studies of effectiveness of technology-distributed education, and linkages with university, state, or federal units.

Evaluation

IFAS's development of a systematic program for distance education production and delivery is on-going. The last step in strategic planning is to evaluate the changes that have been made. The Distance Education Committee is currently evaluating some of the recommendations. IFAS is in its first year of the new Distance Education Committee system, and some problems already have been recognized. For example, Extension faculty are asked to provide their in-service training program offerings for county agents early in the calendar year. These offerings are then published and distributed to county agents. The Distance Education Committee encouraged Extension faculty to plan to deliver some training via technology. The committee received three submissions to deliver in-service training via satellite; these were published in the in-service training book. But during that time, the satellite that the University of Florida used for program delivery went "dark"; it was lost. Satellite costs increased, making delivery by satellite too expensive for the year's budget allo-

cation. The in-service training will be provided by videotape, instead, to keep costs down. IFAS still is committed, though, to satellite delivery of some programs. These issues, as they come up, will have to be addressed by the Distance Education Committee. It is anticipated that IFAS will conduct an evaluation of distance education production, delivery, and benefits to identify what refinements need to be made.

This instance aside, the system appears to be working. The committee has made its recommendations for course production and delivery — for example, the master's degree program — to the deans of the COA and Extension. A plan to deliver at least three academic courses and several Extension programs a semester via distance education over the next two years has been presented to the deans. Faculty are beginning to address their distance education concerns and ideas for programs and courses to committee members, as opposed to administrators initially. The committee also is recommending more in-house research be done to better utilize state and federal funds for distance education, while maintaining a quality product for students.
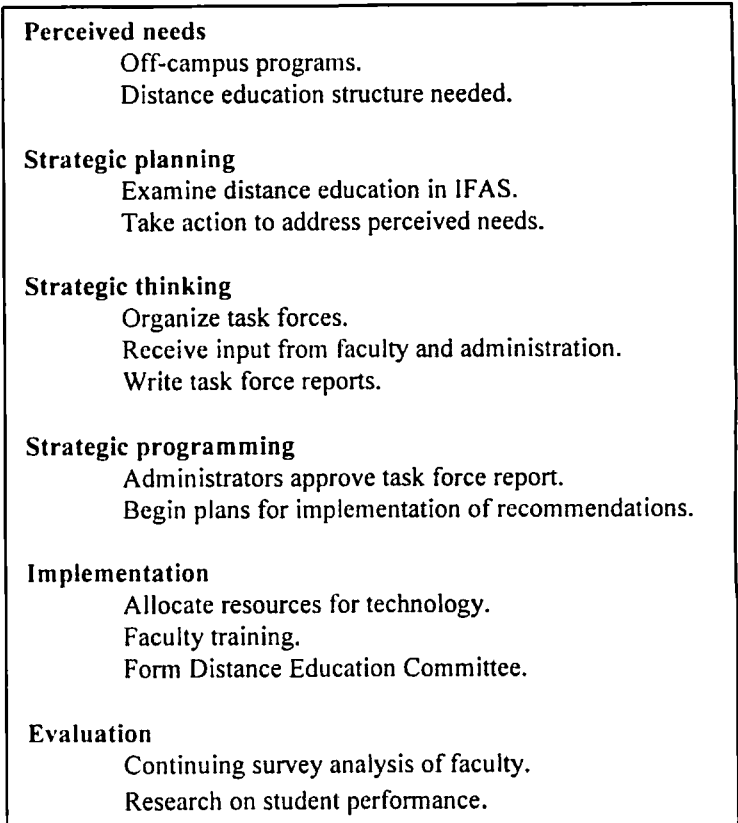
In addition, based on informal (word of mouth) evaluations from faculty and administrators and committee members' own self-evaluations of the process, the committee has conducted the following actions:

- Developed a Web site describing the committee's functions. It has an electronic mail listserv address where people can make inquiries direct to the committee.
- Recognized that the distance education programmatic plan has to stay "fluid." Instead of a rigid plan of course offerings set once a year with no allowances made for changes, modifications to the course offering plan now are being made at six- to nine-month intervals. These allowance have to be made because of technological advances and an increasing number of faculty who desire to produce distance education courses and programs.

Discussion and Conclusions

This case study examined how IFAS has developed its distance education effort to better meet the needs of students, Extension clientele, and faculty. As shown in Figure 2, the strategic planning process followed the model developed by Comer et al. (1996).

The lessons learned and their resulting actions should assist colleges of agriculture — both those with long-standing and new distance education efforts — as they determine how best to implement or reform distance education to accomplish their goals. In order to bring about change or reform, it is essential for the faculty and administration to interact as the college goes through the strategic thinking and planning process. Specific lessons learned include the following:

Figure 2. IFAS distance education strategic planning process

Perceived needs
  Off-campus programs.
  Distance education structure needed.

Strategic planning
  Examine distance education in IFAS.
  Take action to address perceived needs.

Strategic thinking
  Organize task forces.
  Receive input from faculty and administration.
  Write task force reports.

Strategic programming
  Administrators approve task force report.
  Begin plans for implementation of recommendations.

Implementation
  Allocate resources for technology.
  Faculty training.
  Form Distance Education Committee.

Evaluation
  Continuing survey analysis of faculty.
  Research on student performance.

- To implement an overall programmatic distance education system, an institution must have administrative support. In IFAS's case, the two deans recognized the need for a systematic way of determining and recommending distance education programming.
- This case study used a task force approach, mandated to evaluate a particular topic. One advantage of this approach is that "the task force is given a charge and thus has the focus that is essential for the job" (Comer et al., 1996, p. 12). The Distance Education Task Force chairperson served as liaison with the deans and with the faculty who attended the forums. The task force chairperson also serves as chairperson for the Distance Education Committee, allowing for continuity as the recommendation implementation process continues.
- Changes should include both a "top-down" and "bottom-up" approach. The deans formed the task force (top-down), but the task force — made up of faculty from throughout IFAS — polled other faculty and got their input before making any recommendations to the deans (bottom-up). The deans then approved the creation of the Distance Education Committee which makes recommendations to the deans, who have the final approval of course or program delivery. This "top-down," "bottom-up" approach has helped faculty "buy into" the changes. Faculty had input throughout time the Distance Education Task Force collected information. Faculty answered

questionnaires distributed prior to the creation of the Distance Education Task Force to determine course need, faculty training needs if a course was delivered by technology, and technology delivery options. Also, many faculty forums were held around the state to gauge input of the task force's draft report. This process of soliciting faculty input throughout the process follows Duderstadt's recommendation (1997, paper presentation) that an authoritarian decision-making approach will make way for academic administrators who facilitate, implement, and sell the transformation process to the faculty.

As has been detailed, higher education is evolving to meet the needs of an ever-changing society. Distance education is one way to address the changes. By developing a strategic plan, which the authors recommend should include a task force approach, colleges of agriculture will be in a better position to develop a quality distance education programmatic structure well into the next decade.

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Reaction Papers as an Alternative To Tests: Some Observations

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Abstract

This paper provides a procedure for, and an evaluation of, reaction papers as an alternative to tests for assessing the performance of students. Students appreciated the use of reaction papers and felt they enhanced the learning environment. A balance between reaction papers and quizzes may contribute to a better learning experience for students. The use of reaction papers enhances opportunities for students to improve writing skills and critical thinking. This approach also provides feedback to the instructor regarding topics which need additional class time and coverage.

Introduction

Tests are stressful. White and Broder (1988) found that student characteristics, testing, and grading contribute to stress. These authors suggest stress level can be reduced by improved teaching and evaluation techniques.

The overall purpose of this paper is to briefly present and evaluate reaction papers as alternatives to tests. Reaction papers, in general, ask students to summarize or outline the main points of each class session and discuss or react to a central concept or question related to the lecture and discussion material (McLeod, 1995). More specifically, this paper will a) discuss a procedure for incorporating reaction papers as an evaluation technique into a course, and b) evaluate the use of reaction papers as an alternative to tests.

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