

Improving Readiness for Change and Innovation: A Case Study

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This is a case study of an effort to improve the effectiveness of an instructional development program in a health professions school by modifying the level of organizational readiness and individual faculty readiness for instructional innovation and change. It is a tactical example of an attempt to alter the setting in a specific educational institution.

The Literature on "Readiness for Change" in Education

The relationships among organizational readiness, individual faculty readiness, and instructional development have been noted and discussed frequently in the literature of instructional development.

Abedor and Sachs (1978), in the lead chapter of a recent book on the state of the art in instructional development, define "readiness for instructional innovation" as "that critical combination of characteristics prerequisite to the adoption of an innovation which changes instructional content or process" (p. 5). Other authors, although not referring to "readiness" directly, discuss the issue in somewhat different terms. Durzo (1978), for example, synthesizes from his review of the literature, 16 "guiding principles" for implementing instructional development programs in higher education. Spitzer (1977) creates a fictitious "survival manual for instructional developers" and offers the following as one of the manual's major concepts: "We must take the pulse of the

institution and recognize whether it is ready for our exciting ideas. Good ideas in an immature organization can be extremely threatening." Dwyer (1976) focuses specifically on the assessment of readiness for change and lists a number of common-sense guidelines for the process of readiness assessment and constructive follow-up. DeBloois and Adler (1973) suggest that a "conservative" program for instructional development services can be developed as an "ascending ladder of faculty readiness," with the bottom rung labeled "awareness activities"; the second, "faculty support activities"; and the top, "instructional development activities."

For the most part, the authors cited and others (e.g., Caetano, 1978; Craig, 1976; Lawrason, 1978; Lee, 1972; and Purdy, 1975), have been concerned with the context in which instructional development takes place and have provided mostly *strategic* views of faculty readiness, organizational readiness and the approaches to improving them. In contrast, the present discussion offers a *tactical* perspective of a direct attempt to improve organizational and individual faculty readiness for instructional innovation and change. Specifically, the change method involved a highly structured, 2-day workshop that engaged faculty in problem-solving activities related to curriculum management.

The Institutional Setting

The change effort took place in a state-supported dental school having a near 80-year history as a free-standing institution and a national reputation for producing graduates who are highly competent in clinical skills. In 1975, along with the nearby schools of medicine and nursing, the school of dentistry became part of a new university health sciences center. Only 1 year earlier, the school of dentistry had established a

new Division of Educational Resources and appointed the author as its first Director of Instructional Development, and the school's only professional "educationalist."

During the period 1974 to 1976, the author's efforts as Director of Instructional Development included: assessing institutional needs; setting divisional goals; developing proposals; writing grants; obtaining resources; negotiating with the other schools of the health sciences center for resource sharing (e.g., media production and classroom audio-visual services, previously unavailable); making noontime presentations on instructional product development; conducting evening faculty seminars on teaching methods; having individual faculty consultations; and working on such committees as admissions, curriculum, and teaching-learning.

For many, if not most, of the school of dentistry faculty, both the new university affiliation and the appointment of an in-house education specialist were considered imposed changes to be ac-

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The workshop activities described in this paper were previously presented at the 1977 Health Sciences Communications annual conference in Indianapolis, Indiana.

cepted with a "wait-and-see" attitude. Resistance to change among faculty in higher education is nearly pandemic; dental educators are among the most stolid opponents of change. There seem to be several reasons for this. As Oaks, Fox, and Valter (1977) have stated in an article about unionization in dental schools, the reasons for the general passivity exhibited by dental faculty in several schools toward negotiations of any sort were their "competing loyalties," "professional commitments and the pervasive, if declining insulation from much of what occurs elsewhere in universities" (p. 662). Oaks and his colleagues have noted further that:

Many [dentists and physicians] chose the profession in part because they disliked collective action, preferring to work alone. The values and personality traits that sustain commitment to medicine and dentistry often conflict with those that enable people to enjoy or even accept life in complicated organizations. (p. 662)

Nalbone and Terkla (1978) have characterized dental faculty as follows:

Dental faculty, many of whom are part-time and have practices outside of the institution, see themselves first as health-care practitioners and only secondly as educators. Even as educators their interests focus heavily on problems of patient care, the basics of supplies, space and other resources and the struggle to gain more student contact time. . . . Moreover, the administration's effectiveness in exercising power is somewhat eroded when cooperation on organizational matters is needed because dental faculty always have the option to return to full-time professional practice (p. 62).

Not all dental school faculty are dentists, of course, but the clinical faculty typically are the dominant element and set the tone for individualistic behavior and factionalism that is counter-productive to cooperative change efforts. It should be pointed out, however, that it is not uncommon in dental schools for faculty to have heavy commitments to student contact and often little more than one-half day per week of unscheduled time for preparation. In the subject school, the noon lunch-hour is typically the only time that committees can hold meetings and reliably expect a quorum.

There is another important point that makes dental school faculties different from those of regular university arts and

sciences institutions, and perhaps somewhat more wary of change: the usual dental school curriculum consists of a set of specific courses presented only once each year and arranged so that an entire class of students goes through the same instruction as a group in lock-step fashion. Any call for change in the curriculum by any group or individual is typically perceived by other faculty as a threat simply because even a minor change in one area of instruction may necessitate a drastic change in how other courses are to be taught. The last attempt at major curriculum revision at the subject school of dentistry took a full 7 years to implement.

The Tactic for Increasing Readiness for Change: Create a Visible Sign

It was the view of the Director of Instructional Development that the most effective changes to improve instruction, given the limitations on resources, could best be accomplished by working closely with the school administration, other key decision-makers such as committee chairpersons, and influential faculty who were more inclined toward progressive educational ideas. After 2 years of effort, from the time the school's instructional development program was initiated, however, it became clear that significant change toward instructional improvement would be extremely slow in coming unless a requisite change could be effected in the readiness among the faculty as individuals and concurrently as a body. Moreover, because previous change efforts had not produced an image of readiness that was recognized, some *visible sign of readiness* had to be cre-

had been engaged in day-long, structured, individual career-planning and departmental goal-setting exercises in which they generally participated in a positive and productive manner. With this precedent established, a set of highly structured and conceptually complex activities were designed in consultation with members of the teaching committee for the retreat in the fall of 1976.

With the overall goal of increasing the readiness for change among individual faculty and the faculty as an organization, the retreat program was planned. Its specific goals were to:

- Increase faculty awareness of inter-related curriculum problems;
- Improve the likelihood of faculty acceptance of proposals for comprehensive change; and
- Prepare faculty to give relevant input to proposals for change.

The assumption, at this time, was that the faculty were unprepared for change because of a lack of awareness of the relationships among—or even the existence of—certain problems involving their curriculum and the management of their individual instructional efforts. This situation was not unique to the school of dentistry inasmuch as Spitzer's (1977) survey of 60 ID personnel at various universities and colleges indicates that "a frequent reason for the ineffectiveness of ID programs is a lack of understanding and acknowledgement of institutional and instructional needs" (p. 18).

DeBloois and Adler (1973), as has been noted, propose that "awareness activities" comprise the first step in increasing faculty readiness. Havelock (1973) also refers to "awareness" as the first phase in the process of an individu-

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ated to maintain administrative support as well as to elicit action from key faculty.

The medium for the desired visible sign of readiness for change was to be the school's annual fall faculty retreat. Faculty retreats occurred in a resort setting and traditionally required a low commitment of effort by participants. The previous year, however, faculty

al's adoption of an innovation. Instead of awareness and understanding, as Gideonse, Grasha, Grupp, Lansky, Daily, Hollander, Richardson, and Schwenker (1975) see it, "faculty and administrators, and students, all carry around in their heads, images of teaching, learning and educational processes which effectively prevent instruction . . . from being improved" (p. 45). Such

"cognitive maps" are individually specific and are constantly being reinforced by individual experiences. A major goal of the retreat for the school of dentistry, therefore, was to supplant those personal cognitive maps with a common one that focused on the interrelatedness of curriculum problems.

The second goal was set with the recognition that incremental changes, say by mini-grants to faculty for instructional improvement, would have little long-term impact; that given the ex-

member in mind. As viewed by the faculty, the goals of the retreat were to provide faculty with a means for:

- Identifying and defining educational problems, using a curriculum evaluation model as a conceptual framework;
- Developing alternative solutions to educational problems, using a systematic problem-solving approach; and
- Developing alternative solutions to educational problems, using interdepartmental teams.

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treme limitation on resources, certain school-wide changes would have the greatest cost-benefit; and that actual proposals for change would not directly be developed by the faculty but *would* require their acceptance.

The third goal, correspondingly, was set with the recognition that faculty input to proposals is always needed to provide faculty with a sense of ownership as well as to assure that all relevant issues are considered. Gropper (1977) holds a similar view in regard to proposals for instructional change and comments that "The source of the proposal is hypothesized to be relevant to the likelihood of its acceptance. Self-initiation or collegiality are more apt to be conducive to acceptance than are requirements from on high, or proposals from specialists" (p. 11).

Restating the Goals from the Faculty's Viewpoint

Because the three goals, particularly the second goal, might have appeared to be too much for the direct benefit of the school's administration or the change agent, alternate goal statements were formulated with the view of the faculty

From the Director's view, a faculty member who participated in the retreat experiences aimed at these announced goals would:

- Acquire an increased awareness of curriculum issues as interrelated problems;
- Be more able to offer input to proposals for change, having been exposed personally to a variety of possible problem solutions that might relate to a given proposal; and
- Be more likely to accept a change proposal that was based on possible and familiar solutions generated by himself or his peers rather than by the administration or an education specialist (Gropper, 1977).

The rationale was that the *announced* goals would establish enabling conditions for the more comprehensive, unstated goals aimed at increasing organizational and faculty readiness for change.

Process, Structure, and Substance

Each of the four aspects of the retreat program, including structured experiences, materials, and key actors were

planned and arranged to facilitate an optimal outcome.

Introduction by respected faculty—to establish faculty ownership of the retreat's goals and the program format, two senior faculty who were members of the Teaching-Learning Committee were enlisted to give opening addresses and to reiterate the announced goals.

Welcome address by the Dean—to establish the support of the school administration, the Dean was enlisted to challenge the faculty to approach the program activities not simply as exercises, but as the initial steps toward solving real problems that the school faced. (According to Durzo, 1978, who cites a number of other authors who are in agreement, "administrative encouragement and support of innovation" is the first necessary principle for instructional development.)

Overview presentation by the Director—to familiarize the faculty with the complex set of materials, the Director gave a presentation linking practical and familiar problems to the theory underlying the problem-solving processes and the group activities that were to follow. To establish a mood of enjoyment for the activities, colorful slides in a cartoon style with humorous remarks were used to illustrate the theoretical concepts and to introduce locally appreciated issues as examples.

Problem-solving activities—following the Director's presentation and a brief period for questions, the faculty were engaged in the planned, structured activities; first for a 1½-hour session and subsequently for a 2-hour session the following morning.

Handout materials for the activities consisted of a restatement of the retreat goals and the material shown in Figures 1, 2 and 3. Figure 1 duplicates the procedural instructions for the activities. As has been noted, the process was highly structured and required participants to adhere closely to the instructions. This was done to assure that each group proceeded in a consistent manner that would enable each individual to participate actively, minimize the amount of time needed to grasp the requirements of the task, and provide a means of monitoring each group's progress. The method used is similar to what Van de Ven and Delbecq (1974) have called the "nominal group technique." Each individual always takes a turn at presenting an idea or response and the group votes on a solution after a limited

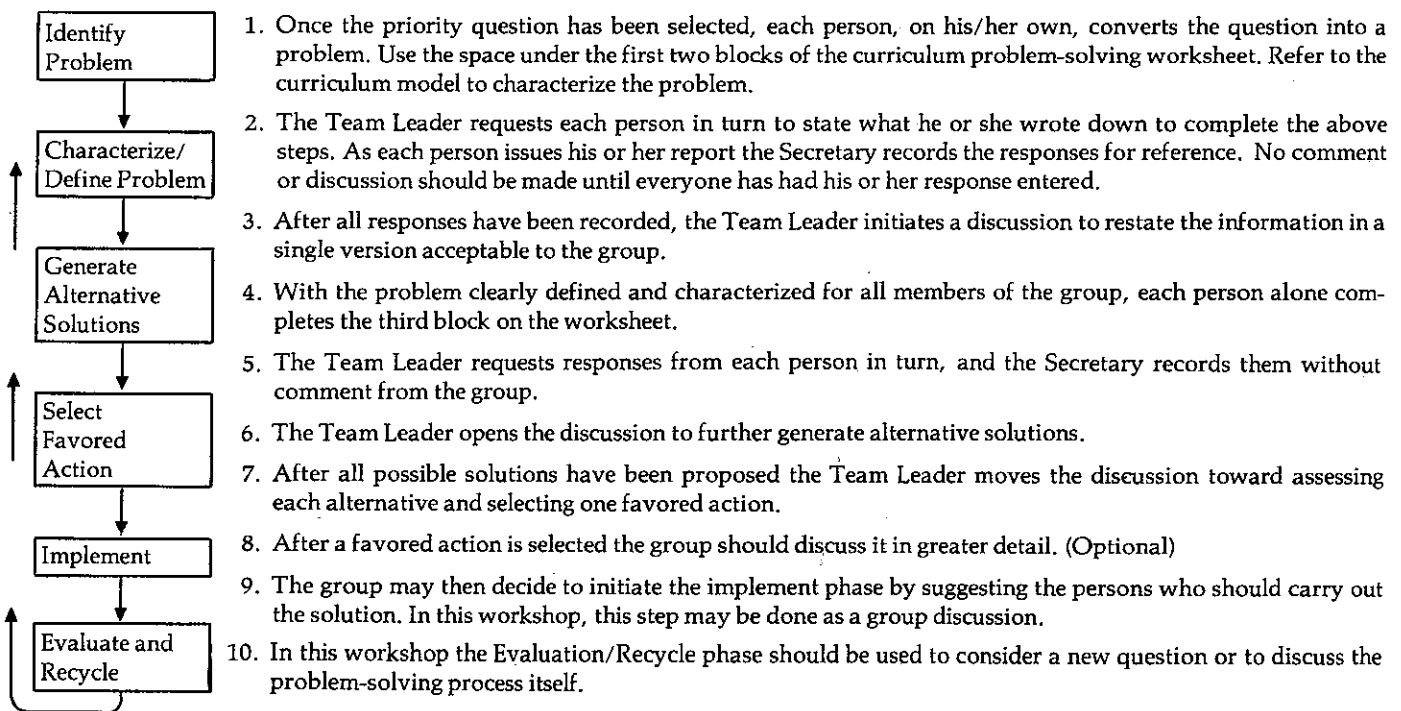
Curriculum Problem-solving Workshop

_____ Group
_____ Track

General Instructions

1. *Form Groups:* Your assigned group is identified on the upper right-hand corner of this page.
2. *Choose Leaders:* Group members elect a Team Leader, responsible for keeping efforts aimed at the given task, and a Secretary who will record group decisions.
3. *Select Priority Issue:* Your group has been assigned to work on questions associated with the Track identified in the upper right-hand corner of this page. The following page lists the questions for each Track. Without discussion, each Group member submits his/her choice of the question for the Group to consider first. Tally the votes to determine the Group's priority. Revote if necessary with a show of hands.

Problem-solving Instructions



Summary

At the end of the session(s) the group should prepare a summary report which:

1. Presents in a series of brief statements each problem considered by the group.
2. Describes the favored solution to each problem.
3. Outlines any other suggestions the group wishes to present to the faculty.

Each group will have an opportunity to present its summary to the faculty.

FIGURE 1. Workshop procedures/instructions to participants.

period of discussion. Time limitations for steps were not imposed, but groups were encouraged to establish a pace aimed at closure for at least one problem solution per session.

Figure 2 shows a list of "20 Questions" arranged into three "tracks," one of which each faculty group was preassigned and from which each group would select a question as a basis for de-

fining a problem, developing alternative solutions and selecting a preferred approach. Each question had been generated originally from responses to a survey conducted among faculty earlier in

20 Questions

Tracks	Questions
<p>1. Curriculum and Content</p> <p>1</p>	1.1 <i>Curriculum Overload</i> —can we expand the curriculum without considering content needs and impact on workloads?
	1.2 <i>Loss-time Paranoia</i> —can curriculum time be distributed on the basis of need rather than on the politics of entrenchment?
	1.3 <i>Basic Science Blues</i> —can there be a closer integration and interdependence between science instruction and clinical practice?
	1.4 <i>Content Checks</i> —can content duplication, inconsistencies and missing instruction be prevented?
	1.5 <i>Professionalism</i> —can professional behavior be taught and evaluated?
	1.6 <i>Prevention</i> —can the school establish a consistent and comprehensive preventive philosophy across all departments?
<p>2. Teaching / Learning</p> <p>2</p>	2.1 <i>Retention Time-Gap</i> —can we overcome the gap between early instruction, later clinical application and the graduate's final retention?
	2.2 <i>Do Your Own Thing</i> —can clinical instructors agree on technique and procedures?
	2.3 <i>Evaluation Criteria</i> —can criteria for minimal competence be defined and agreed upon for clinical evaluation?
	2.4 <i>Feedback</i> —can students be assured of more and better feedback regarding objectives, evaluation criteria and progress?
	2.5 <i>Comprehensive Care/Unit Requirements</i> —can student practice needs and patient treatment both be accommodated?
	2.6 <i>Individualized Instruction</i> —can the curriculum and instruction accommodate individual variability among (slow/fast) learners?
	2.7 <i>Sequencing</i> —can sequencing problems ever be eliminated in a lock-step curriculum such as ours?
	2.8 <i>Student "Shrinkage"</i> —can student emotional problems associated with dental school be recognized and ameliorated?
<p>3. Change System</p> <p>3</p>	3.1 <i>Improving Instruction</i> —can improvements be made when present system is an obstacle, faculty have little time, and are unsure what to change?
	3.2 <i>Teaching Evaluation</i> —can student evaluations alone be used to judge good teaching?
	3.3 <i>Reward System</i> —can improving teaching be made to pay off in terms of professional advancement or other rewards?
	3.4 <i>The Cents of Teaching</i> —can budget planning be linked to demonstrated teaching effectiveness and improvement?
	3.5 <i>Pervasive Priorities</i> —can administration goals be clarified and linked to department and committee efforts?
	3.6 <i>Teaching Teachers</i> —can perceived faculty needs be met by educational resource and career support programs?

FIGURE 2. List of questions from which problems were defined.

the year. An effort was made to characterize each question with a suggestive and easily remembered "catch phrase" that did not have the ring of educational jargon (although this was not always accomplished) (Gropper, 1977). "Basic Science Blues," for example, referred to the issue of making the physical science

courses more meaningful in terms of the knowledge needed for clinical practice. Note that the questions did not constitute problems in themselves, but had implications for problems that might be identified and defined. These questions were intended as advanced organizers to suggest possible relationships among is-

sues and to avoid wheel-spinning on trivial or entirely philosophical matters.

A *problem* was to be defined (a) by using one of the questions as a point of reference and (b) by characterizing the problem in terms of a "curriculum description cube," which had been elaborated earlier in the slide presentation and

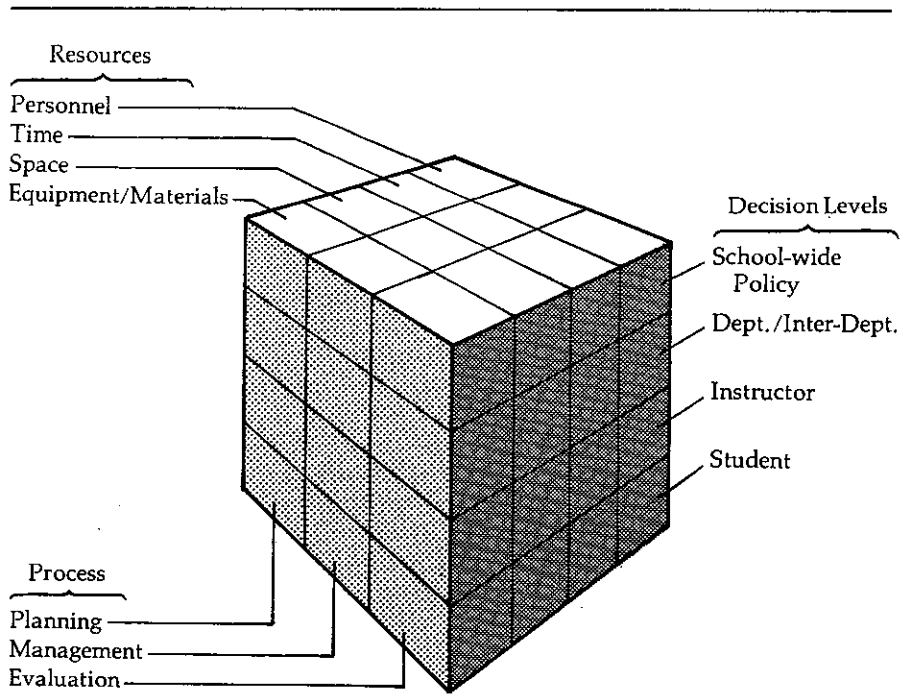


FIGURE 3. Curriculum description cube used to characterize defined problems.

was also included in each handout packet. The cube, shown here as Figure 3, is a system matrix having *substantive* (resource), *structural* (decision-level), and *process* dimensions. The matrix was incorporated into the overall procedure through the use of a worksheet that arranged the problem-solving process into successive but interdependent steps following a systems approach. Figure 4 shows a sample worksheet with an example problem worked out, although somewhat superficially. The sample work sheet and a blank worksheet were provided to each faculty member in the handout packet.

The problem-solving model was custom-designed for the retreat. However, other models were valuable references. A decision-making process developed by Wales and Stager (1975) and a training-oriented model for educational settings developed by Jung, Pino, and Emery (1973) proved to be useful guides. Most valuable was McPherson's (1975) instructional systems improvement model with which the model shown in Figure 4 is nearly isomorphic.

UOHSC School of Dentistry Faculty Retreat 1976

Curriculum Problem-Solving

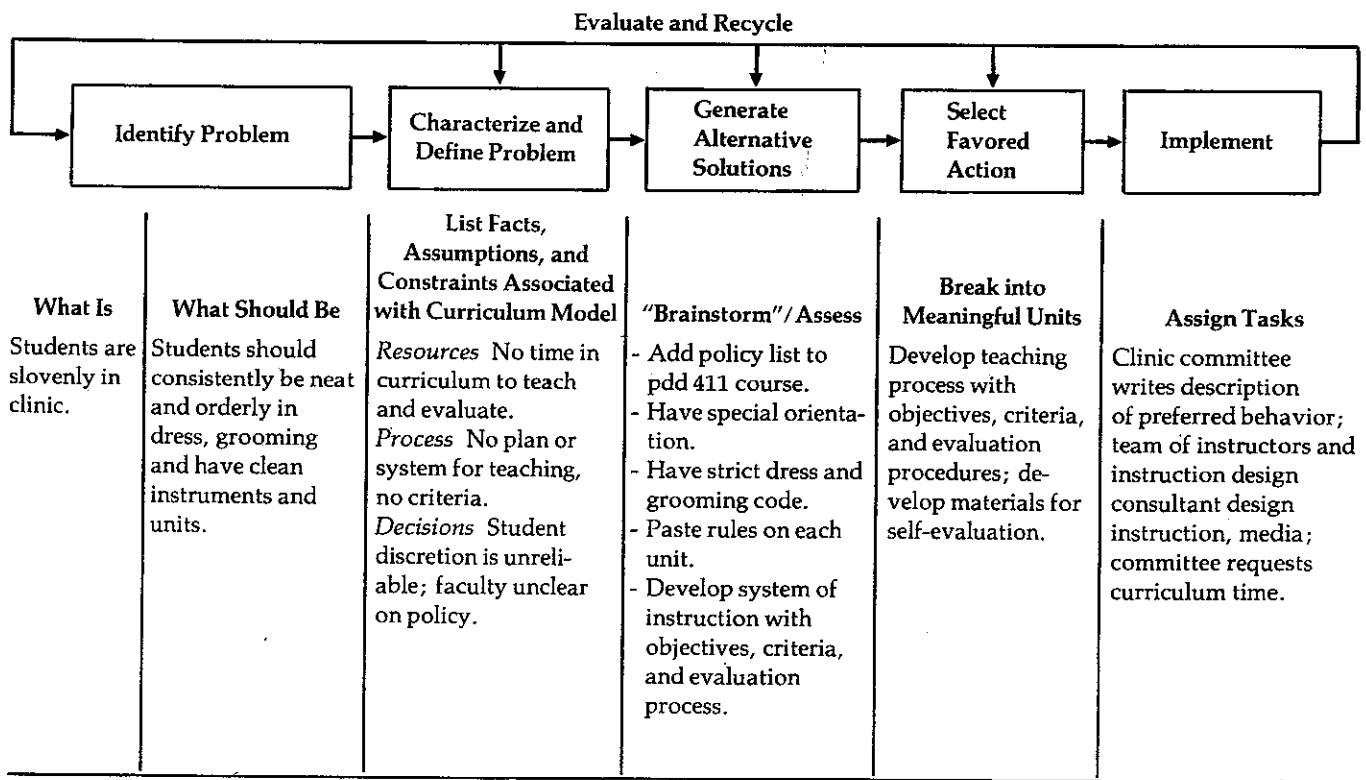


FIGURE 4. Problem-solving worksheet (with example problem).

Outcome, Evaluation, Follow-up, and Observations in the Aftermath

All 14 faculty groups successfully completed the problem-solving process for a minimum of two problems each, although some groups were more proficient at documentation than others. An open discussion period at the end of the retreat revealed that among groups that dealt with the same issues, problems were defined and characterized in a

ing, groups such as the Teaching-Learning Committee and the Curriculum Council have adopted goals (where none existed before) that can be traced to the problem descriptions developed at the retreat. Moreover, among other improvements, the school has since established an Independent Learning Center equipped with audiovisual equipment and self-instructional materials and has successfully initiated a standardized system of faculty/course evaluation using student surveys developed

the impetus generated from the workshop activities could be sustained.

It is hoped that this article will stimulate further discussion regarding the issue of readiness for change and direct methods for improving readiness in higher education institutions. This case study should be viewed as one fairly successful attempt, to infuse enthusiasm for innovation and instructional development into a typically conservative instructional atmosphere. Through compilation of many such efforts, more effective guidelines for accomplishing certain instructional development goals, to bring about an open, innovative problem-solving atmosphere, may be derived.

"Although these changes might have occurred without the retreat program, it appears that the retreat experience's impact was catalytic for the changes that followed, that the faculty's collective 'cognitive map' of the instructional system was reoriented, and that instructional development efforts in general have been successful."

fairly consistent manner, but final solution choices were quite diverse. The wealth of ideas generated included a number of problem definitions and innovative solutions that if introduced by an education specialist, might previously have been viewed as radical, but having come from the faculty itself, received general approval when discussed in the open session.

Using a brief questionnaire provided at the close of the retreat, faculty rated the problem-solving sessions as valuable experiences. This seemed to concur with the general aura of enthusiasm maintained throughout the workshop period. However, out of the nearly 100 participants, only two persons documented their interest in contributing to follow-up work on any specific problem after the retreat.

Because the retreat program was not designed with research in mind, there are no baseline data except perceptions of the need for an improved climate for change. In the 3 years following the retreat, however, a number of significant developments have occurred within the school suggesting that the retreat successfully affected the organizational and individual faculty readiness for innovation and change.

For example, although there is little evidence that faculty are actively using a systematic approach to problem-solving

with considerable input from faculty. Perhaps most important, the Curriculum Council, working from a system plan proposed by the Director, has begun a long-term effort to develop curriculum management procedures involving continuous evaluation and iterative phases for course improvement.

Although these changes might have occurred without the retreat program, it appears that the retreat experience's impact was catalytic for the changes that followed, that the faculty's collective "cognitive map" of the instructional system was reoriented, and that instructional development efforts in general have been successful.

Recommendations for Application in Other Settings

The basic design of this effort to effect an improvement in the organizational and individual faculty readiness for change and innovation is seen as readily adaptable to other higher education institutions. The only major modifications needed would be to customize, for the specific institutional setting, the questions (Figure 2) from which problems would be defined and to increase the amount of time provided for the problem-solving procedures. A final recommendation would be to provide follow-up incentives for faculty so that

References

- Abedor, A. J., & Sachs, S. G. The relationship between faculty development (FD), organizational development (OD) and instructional development (ID): Readiness for instructional innovation in higher education. In R. K. Bass & D. B. Lumsden (Eds.), *Instructional development: the state of the art*. Columbus, Ohio: Collegiate Publishing, Inc., 1978.
- Caetano, D. A model for changing faculty attitudes. *Faculty development and evaluation in higher education*, 1978, 4(1), 1-7.
- Craig, J. A. An examination of the faculty growth process. *Educational Technology*, 1976, 16(9), 50-52.
- DeBloois, M., & Adler, D. Stimulating faculty readiness for instructional development: A conservative approach to improving college teaching. *Educational Technology*, 1973, 13(7), 16-19.
- Durzo, J. J. Basic considerations for implementing instructional development programs in higher education: Some suggestions from the literature. *Journal of Instructional Development*, 1978, 1(2), 30-35.
- Dwyer, M. S. Mastering change in education: assessing readiness for change. *Educational Technology*, 1976, 16(9), 52-56.
- Gideonse, H. D., Grasha, A. F., Grupp, G., Lansky, D. T., Daily, W. E., Hollander, V., Richardson, E. M., & Schwenker, C. E. The application of problem analysis to instructional improvement in the university. *Biosciences Communications*, 1975, 1(1), 40-59.

- Gropper, G. L. On gaining acceptance for instructional design in a university setting. *Educational Technology*, 1977, 17(12), 7-13.
- Havelock, R. G. *The change agent's guide to innovation in education*. Englewood Cliffs, N.J.: Educational Technology Publications, 1973.
- Jung, C. C., Pino, R., & Emery, R. *RUPS: research utilizing problem solving*. Portland, Oregon: Northwest Regional Educational Laboratory, 1973.
- Lawrason, R. E. Politics of instructional development in higher education. In R. K. Bass & D. B. Lumsden (Eds.) *Instructional development: the state of the art*. Columbus, Ohio: Collegiate Publishing, Inc., 1978.
- Lee, A. M. A survey of instructional development programs in higher education. *Audiovisual Instruction*, 1972, 17(8), 16-17.
- McPherson, A. *Improving instructional system effectiveness*. Seattle, Washington: Office of Research in Medical Education, University of Washington, 1975.
- Nalbone, R. J., & Terkla, L. G. The role of evaluation in the organizational evolution of a school of dentistry. *Evaluation and the Health Professions*, 1978, 1(1), 55-68.
- Oaks, J. H., Fox, D. M., & Valter, J. J. Dental faculty and labor unions: The perils of passivity. *Journal of Dental Education*, 1977, 41, 660-665.
- Purdy, L. Community college instructors and the use of new media: Why some do and others don't. *Educational Technology*, 1975, 15(3), 9-12.
- Spitzer, D. R. Incentives in instructional development. *Educational Technology*, 1977, 17(8), 17-21.
- Van de Ven, A. H., & Delbecq, A. L. The effectiveness of nominal, delphi, and interacting group decision-making processes. *Academy of Management Journal*, 1974, 17(4), 605-621.
- Wales, C. E., & Stager, R. A. *Educational systems design*. Morgantown, West Virginia: West Virginia University, 1975.