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Evaluating Approaches to Faculty Development in the Use of Learning Technologies

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Seven current approaches to faculty development in instructional technology, reduced to their basic assumptions, are discussed in terms of their match with what is known about faculty learning and their work environment. These approaches include: modeling, idea seeding, incentivizing, troubling/alleviating, commanding, comparing, and persuading. The paper argues that various approaches need to be considered in light of faculty members' perceptions of the need to change and convictions that the use of instructional technology holds promise for accomplishing their goals.

As campus developers attempt to engage faculty members in the use of learning technologies, they often use change strategies that rest on unexamined assumptions about their appropriateness. These different approaches can be successful under specific conditions and with specific faculty, yet in order to maximize the effectiveness of development work in the arena of instructional technology, developers will benefit from exploring how their approaches fit with what is known about faculty change in teaching.

Using a conceptual framework common within faculty development as well as action research practice, I have described a model of faculty growth based on a long line of literature on experiential learning in the works of Dewey, Lewin, Kolb, and others (Chism, 2004; Chism, Lees, & Evenbeck, 2002). I argue that change in teaching begins with a felt need, arising most typically from a sense that students are not learning well, but occasionally stemming from other reasons, such as boredom with teaching repeatedly in the same fashion, the desire to reduce stress from overwork, or the desire to please someone. When this impetus to change is embraced, faculty members consider other courses of action for their potential in addressing the need. For example, they may see adopting student peer review of essays as a good option for reducing their excessive grading time as well as for strengthening students' editing skills. This behavior pattern may operate without much explicit attention to the process, but is nonetheless intentional.

This intentionality, rooted in an inherent need to have a reason for change and a conviction that a given course of action will be a positive change, is key to faculty development efforts in teaching, including those aimed toward supporting faculty as they use new learning technologies. This paper will look at seven popular approaches to promoting this faculty change, the assumptions about promoting growth that underlie each, and their fit within the conceptual framework described above. These approaches include modeling, idea seeding, incentivizing, alleviating/troubling, commanding, comparing, and persuading.

Modeling

Reduced to its basic assumptions, the modeling approach is based on the belief that if faculty see a peer doing something that leads to an outcome that they value, they are likely to start doing it. This approach builds on the popularity, in the literature on technology use in education, of Roger's (1995) diffusion of innovation curve, particularly on two key groups mentioned in this theory—the "entrepreneur" and "early adopter." The argument is that if the work of these innovators is held before other faculty, these achievements will inspire others to follow their lead. (Some also call this the "contagion" or "inoculation" approach.) It is assumed that if the innovators become mentors to others, they are in a prime position to influence peers. In light of the belief that faculty respect peers and especially those from their academic specialization more than any others, this approach has some appealing logic. It is the basis for the selection of national fellows who serve as ambassadors for instructional technology, mentor programs within departments, faculty workshop series led by innovators, poster sessions at conferences, and print stories describing the development of technology innovations.

In order for this approach to work, several conditions need to hold: the innovator has to have the desire and capacity to teach the faculty peer; the faculty member needs to be aware of what this innovator is doing and think it valuable; and there have to be occasions for the two (or more) to interact. As this model increases from one-to-one to one-to-many, the likelihood of match between the innovator's field of teaching and that of other faculty is reduced and the daily proximity of the two is less probable. The peer in one's own department, then, is optimal from the point of view of match of subject matter and contextual conditions (student population, institutional mission, etc.) as well as the likelihood that there will be interaction and the availability of sustained contact. The nationally-recognized innovator is not as good a match on these criteria, yet is more likely to be able and willing to be a communicator, having been selected expressly for this purpose.

Although there is no reason why local innovators are not good at bringing along their colleagues (and some are), there is something about the profile of many of these faculty, captured in the "lone ranger" phrase that is often applied to them, that does not attract innovators to the work of faculty development. Many like to work fast and in solitude, have an easy affinity with technology, and are impatient with those who do not. These faculty members generally have a reputation for being especially talented in the area of technology, and consequently, their peers may identify with them as disciplinary colleagues, but not as equals on the playing field of technology. As de Vry (2003, p. 63) observes, "Early adopters and innovators can actually scare off mainstream faculty who are not interested in bells and whistles and want to spend their time on teaching and research."

In addition, the work of the innovators may not be valued by their more reluctant colleagues, who may think that it is gimmicky, unproven, or not useful in their own particular teaching context. If the innovator is not able to show how the change will improve learning or address another need being experienced by the faculty colleague, change will be stalled since it will not be in synch with the faculty learning cycle. Given that the literature on the effectiveness of instructional technology is beset by confusion on what are appropriate ways of asking the question, uncertainty about the relative effectiveness of various research approaches in exploring the question, and conflicting early results, it may be difficult to provide convincing evidence.

When conditions are favorable, however, modeling and mentoring are powerful faculty development tools. They require more thoughtfulness than simply singling out an innovator and having him or her tell his story or hoping that one colleague in a department will "infect" the other. To be most effective, the use of modeling in faculty development must be intentional about building the capacity of the innovator as a developer, helping faculty peers to appreciate the value of the innovation, and structuring in opportunities for modeling to occur.

Idea-seeding

This approach is related to modeling, but is built around ideas rather than people. It rests on the hope that if faculty come (or faculty members come) in contact with attractive ideas, they will adopt them. It

is the basis for web pages, knowledge bases of "best practices," print publications such as "tip sheets," or workshops built around a specific idea, such as using a piece of software to keep a gradebook. The rationale for this approach is efficiency: describing others' approaches and making them available through the World Wide Web or easily disseminated print pieces bring large numbers of faculty in contact with ideas that will draw them into using technology. Once again, there are certain conditions that influence idea-seeding as an approach: faculty members must have the time and inclination to access these resources; they must be able to understand and see value in the potential application; and they must be able to use the idea from the description or get help with the implementation.

The deluge of electronic mail and information opportunities that besiege faculty members each day have made many of them very selective or very avoidant of "useful resources." The enthusiasm of those who author web pages and print publications is rarely matched by rank and file faculty members who are not likely to surf web pages or read print publications unless they are looking for something in particular: again, referring back to the learning cycle, the felt need is primary. Added to this are difficulties in fully understanding an idea or implementing it without help, or accessing help to do so.

On the other hand, idea seeding enables ready access when faculty have a need, and under this condition is therefore a "just-in-time" approach. Another advantage is that idea-seeding can be subliminal, even without intending to be. It can increase faculty awareness of the menu of possibilities so that they are more likely to explore when they do feel a need.

Incentivizing

This approach is based on the idea that rewards motivate faculty actions, and indeed, almost every conversation about faculty adoption of instructional technology wanders into the domain of the reward system. Faculty members ask, "If I am not rewarded for my investment of time and energy in using instructional technology, why should I bother?" And indeed, it seems logical that if promotion and tenure, merit pay, or the few other rewards that are available to faculty do not take instructional technology efforts into consideration, faculty members will feel that their work has been unappreciated. Similarly, they are not likely to engage in activities in the first place if there are not up-front incentives to do so. The incentive approach is behind the use of grants, awards, summer salary, workload adjustments, and other methods to support faculty use of instructional technology. A relatively recent discussion focuses on intellectual property agreements that give more control of the ownership of what is produced to the faculty member as an additional incentive to consider (Stein, 2001).

Despite rhetoric to the contrary, however, the literature on faculty motivation has found external incentives to be a relatively minor factor for most faculty members, who are much more concerned about student learning, respect of colleagues, intellectual engagement, and other intrinsic rewards of their work. Studies at several institutions recently have borne this out in the area of instructional technology adoption (Brown, 2000; Chizmar & Williams, 2001; Landis, Squires, & Leach, 2000; Rahman, 2001; Ranker and Clay, 2002; Rockwell, Schauer, Fritz, & Marx, 2000; Wilson, 2001; Wilson, 2003). Faculty developers are used to hearing faculty members lament about lack of extrinsic rewards as a kind of venting exercise, but then observe the same faculty members get hooked on a course of action that has intrinsic appeal, oblivious to their expenditures of time and energy. In addition, modern management literature warns that external incentives are habit-forming and detract from the building of communities of practice.

On the other hand, as Chizmar & Williams (2001); Hagner (2000, 2001); and Hagner & Schneebeck (2001) point out, innovators may be motivated by concerns with student learning, but more reluctant faculty members, whom Hagner terms "careerist" faculty, may be more motivated by extrinsic rewards. The authors indicate that the most reluctant may need the threat of loss of status or rewards to spur them on. Giannoni and Tesone (2003) find that junior faculty are more concerned with extrinsic rewards than senior faculty, but that in general, faculty motivation toward the use of instructional technology is characterized by a blend of extrinsic and intrinsic factors. At any rate, understanding faculty motivation is central to evaluation of this approach,

since it is aligned with the need to change, which is the powerful driver of faculty innovation.

Troubling, and Its Corollary, Alleviating

The basic assumptions here are that if institutions make old ways of doing something hard or make new ways easy, faculty will shift to these new ways. Such structural change approaches use indirect means to influence behavior. The idea is that changing surrounding conditions will make it more likely that certain behaviors will occur. Reducing the availability of old instructional options, such as making print library reserves more cumbersome than the use of electronic reserves, eliminating paper-based submission of grades, and reducing photocopying budgets ("Troubling") are all ways to make it more difficult for faculty to resist the use of new instructional technologies. Providing supportive resources, such as convenient course management systems, life-cycle replacement of equipment, reliable classroom technology, student technology assistants, release time for course development, and helpful instructional designers ("Alleviating"), are positive ways to increase the likelihood that faculty members will use technology. Rahman (2001), Giannoni and Tesone (2003), and Luck (2001) cite release time as an especially important incentive to faculty.

The Troubling approach is not widely used, and probably with good reason. Faculty members are known to be very outspoken about change that they have not initiated or approved and are quite conservative about making changes that have not arisen from their own perception of need. The Alleviating approach is used when resources are plentiful, but this condition is rare in higher education, where competing priorities are the rule. Once again, however, the change model reminds us that faculty members are highly focused on purpose and conservative about embracing resources, including highly attractive ones, if they are not convinced they will be useful. Even if the resources are extremely convenient and user friendly, the felt need is again the driver. On the other hand, the absence of these supportive conditions can certainly discourage those who do feel a need to experiment with instructional technology.

Commanding

This approach rests on the belief that if faculty are told to do something, they will do it. This strategy is generally avoided—with good reason. Although faculty may be more compliant than we generally think (they do routinely show up for class, attend meetings, answer messages, send in required paperwork, order books, etc.), they cherish their independence and can oppose commands merely on principle. Much has been written in higher education—and elsewhere—about resistance to top-down change and resentment of administrative dictates. While there are instances of deans who mandate that all course syllabi will be online or department chairs who specify that all courses will use the campus course management environment, there are very few who are able to make these commands stick or second guess faculty methods of creative resistance.

Brown (2003) warns that mandates may actually delay progress by inciting resistance. Absent an internal need to change and a conviction that the change will be a positive one, it is hard to move faculty members to embrace a given course of action. A more problematical objection is that "compliance tricks" can occur: automatic changes or the appearance of changes may be made without any deep-seated belief in the efficacy of the change. On the other hand, those administrators who have political or social capital to spare can certainly lead their more docile faculty members to the use of instructional technology through direct requirements. The cognitive dissonance involved may indeed force the occasion for a need to change, generating an opportunity for exploration.

Comparing

This approach rests on the belief that if faculty will be thought to be incompetent or outdated, they will embrace new ways. The "keeping up with the Joneses" strategy of change is known by many within the academy. Institutional rankings, salary comparisons, and the use of benchmarks to evaluate and set direction are quite commonplace. As a faculty development approach encouraging the use of instructional technology, peer comparison is occasionally used at the institutional level in the form of adoption statis-

tics. A given campus unit's use of the course environment might be compared to another's with the obvious message that the slower adopter should get with the program. The campus statistics may be compared with those of peer institutions, with the clear implication that there will be loss of reputation, student enrollment, or productivity if the picture is unfavorable.

But the most powerful use of comparing is currently being done by students. Faculty members who hear on course evaluations that they are the "only one" of a student's instructors who don't put their slides on a course webpage or who are urged by students in class to allow electronic submission of assignments or to provide class bulletin boards between class meetings get a strong message. Like the parent who hears that "Everybody else's parents are cool," some faculty may be quick to assert their authority and to draw distinctions between the other case and their own situation. The strategy can thus fail to produce change. Yet student satisfaction is for many faculty members a key to the health of a course, and student call for increased use of technology can therefore stimulate faculty attention to the need for change and increase their trust that making a change involving technology will be successful. Indeed, many administrators are finding that student pressure is leading the charge when it comes to faculty adoption of instructional technology.

Persuading

Providing faculty with information on the benefits of instructional technology is a strategy based on belief in rational argumentation. It is thus responsive to the understandable need of faculty to know why they should become adopters and is aligned with Rahman's (2001) finding that the faculty members most likely to engage in the use of instructional technology are those who are convinced of its potential educational value. Usually, the arguments presented to instructors are based on anticipated gains in student learning, although cost savings, increases in accessibility, time or energy savings for the faculty are other desired ends. To persuade faculty members of the gains to be had through the use of instructional technology, campuses may invite outside experts to give talks, may circulate literature, or may convene workshops or other gatherings. If these arguments come at a time when faculty members are feeling a need to change, they can be powerful.

At the same time, anyone who has tried to locate clear research findings on the advantages of the use of instructional technology knows that the literature is complex, often inconclusive, and context-bound, while faculty members' expectations for certainty are not similarly limited. Skeptical instructors want far more compelling results associated with instructional technology than with their usual everyday practices. To be effective as a strategy, persuasion must be situated within a forum where the parties are truly open-minded and occur at a time when a faculty member is feeling a need to change and looking for a solution.

Conclusion

While each strategy discussed above has merits under certain circumstances, no one approach to faculty development for instructional technology is adequate for promoting extensive and meaningful adoption independent of the context of particular faculty members in specific contexts. The primacy of felt need on the part of the instructor is the basic building block for change. Supporting faculty when they encounter a reason to change their teaching and stimulating examination of the effects of teaching practices to surface these reasons are key ways in which developers can build on the experiential learning approach that typifies faculty learning about teaching.

This support can be offered through individual consultation, project-based consultation, and peer groups, such as faculty teaching circles or learning communities dedicated to sustained examination of practice and inquiry on effects of natural experiments, for instructional technology experiments as well as other kinds of change. Ancillary strategies, such as modeling, incentivizing, persuading, and the other approaches discussed above can play a role at key points of the change process, often for groups as well as for individuals.

For example, a faculty member having problems accommodating enough discussion during class time might experiment with online discussion forums.

She might have gotten the idea of using the forums from a workshop she attended a few months ago (idea seeding) and ask a colleague how he uses the forum feature of their course management sys-

tem (modeling). As she experiments with the online discussions, she may be assisted by a student funded by a small instructional grant who helps her gather data and analyze the learning impact of the forums (incentivizing). The strategies thus facilitate movement through her learning cycle.

Careful faculty development is intentional in employing various strategies to help instructors use instructional technology and is informed by a knowledge of how faculty members make changes and grow in their practice. Timing the use of the approaches and deciding which are appropriate in a given context requires thoughtful consideration of how these strategies fit into the learning trajectory of those for whom they are intended. The notion of the "teachable moment" applies to work with faculty as well as with students.

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