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New paradigms of faculty development: towards a learning-centered design

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New paradigms of faculty development:
Towards a learning-centered design

by

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GENERAL INTRODUCTION

Rationale for Study

Educational change is everywhere. An Internet search on this topic will yield thousands of citations. The words appear in official documents and task force reports. Politicians promise to reform education during election campaigns. Businesses link the health of education to economic survival and workforce productivity. Some seeds for reform come from policy-led initiatives. Other changes have been initiated by individuals in institutions in the effort to improve themselves. These grass-root changes have been informed by a growing knowledge base about successful approaches to teaching and learning.

For meaningful change to occur deep roots must be established. There is no substitute for taking the time to establish the foundation for the desired outcomes, enhance opportunities and nurture success. Yet, change efforts are fraught with difficulties.

If learning were a simple matter there would undoubtedly be fewer difficulties. If learners were all the same, a single theory of learning would suffice and educators could not go wrong.. However, with the increase in the numbers of diverse participants in higher education it has been shown that learners are not all alike. There is no "generic" learner and no single way to learn.

With the popularization of the learning paradigm (Barr & Tagg, 1995), it has become fashionable in higher education circles to talk about learning. This popular interest in enhancing student learning should not be taken to mean that teachers and teaching no longer matter (Palmer, 1998). As Palmer reminds us, "teachers possess the power to create conditions that can help students learn a great deal-or keep them from learning much at all"

(p. 6). Reforms will not happen if we ignore the teacher. Thus, it is no accident that professional development is fundamental to improving the quality of student learning.

In this dissertation, I examine this constellation of issues by looking at one aspect of the current impetus for higher educational reform: designing effective faculty development. It is ironic that in an era that places such emphasis on learner-centered approaches grounded in the assumption that collaborative construction of knowledge results in professional and personal growth, that institutions have paid relatively little attention to providing these kinds of opportunities to college teachers. This scarcity of faculty learning opportunities is particularly troubling given that many faculty members have little knowledge of current thrusts in higher education. The nurturance of faculty development efforts requires a substantial investment of time, energy, and resources. Therefore, it is incumbent on developers and institutions to gather data on the implementation and impact of development programs designed to support faculty in substantive ways. The articles in this dissertation contribute to this end.

Dissertation Organization

This dissertation includes four articles. Two of the articles have been published in professional journals. The other two articles will be submitted to professional journals. A general review of literature provides the theoretical and practical background for the articles. The final chapter provides general conclusions.

The first paper, "Revisioning Faculty Development for Changing Times: The Foundation and Framework," describes the development and implementation of an interactive model of development. The focus of the article is primarily on the combinations of effective practices from adult education and staff development that can serve as the

underlying framework for change efforts. The model could be applied to any targeted area of development.

The second article, "Supporting Faculty Development in an Era of Change," extends the discussion begun in the first article by applying the model specifically to the target area of teaching and learning. The implementation effort described is an actual program developed at Iowa State University called Project LEA/RN (Learning Enhancement Action Resource Network). At the heart of Project LEA/RN is the aim to immerse faculty in educational environments to build strong, ongoing support groups among faculty to sustain long lasting change.

The first and second articles focus on the development of the model. The third and fourth articles focus on preliminary evidence of the impact of Project LEA/RN. The third paper, "Seasons of Change in Helping Faculty Shift to Learning-Centered Approaches," looks specifically at first year participants and examines how participating in the program impacted participants' views of the role of the instructor. The interpretive analysis related to faculty experiences reveals teacher growth in what it means to facilitate learning. Helping others learn is seen as a continuous journey. Along the journey the subject matter specialist – who gives information to students – grows into a facilitator who helps students grasp the heart of their discipline and learn how to continue to be self-directed learners. Consistent with this conceptualization teacher growth is presented as seasons of change in thinking about the process of educating.

The final paper, "An Educator's Manifesto: Faculty Perspectives on a Learning-Centered Design examines how faculty members perceive the value of their participation in the project and also identifies obstacles and challenges to participation. The article includes a

group statement on learning called an educator's manifesto that gives readers an idea of what participation in Project LEA/RN means. The manifesto describes what participants learned about their own learning, their students, and change in post-secondary education.

Literature Review

Introduction

The decades of the 1980s and 1990s witnessed a confluence of internal and external pressures that pushed higher education toward a commitment to improve teaching and learning. One sign of this commitment to improving undergraduate education has been the emergence of faculty in-service support in the form of workshops (Chauvin & Eleser, 1996; Smith, 1995).

These traditional workshops undoubtedly have contributed to improving teaching, yet, at the same time, they have come under increasing scrutiny and criticism. According to recent reform advocates, one shortcoming of the traditional workshop approach to development is that they seldom go beyond teaching tips and techniques. Parker Palmer (1993) contends that our overly reductive "how-to" approach to helping faculty prevents us from engaging in true dialogue on the deeper issues of teaching that could help us improve educational endeavors. Similarly, Angelo (1994) argues that traditional faculty development practices are too narrow. If hoped-for gains in student learning are to be achieved, faculty development must move beyond traditional workshop tips and consultation towards deeper issues of learning and teaching.

As a result of these exhortations, faculty developers increasingly are being called upon to create developmental activities that ask participants consciously to explore the learning process and confront beliefs about teaching. In an era of paradigm shifts it is time

for the field of faculty development to experience one of its own, moving from a paradigm where developers work to help faculty add tools to their repertoire to a paradigm where developers work with faculty to examine the assumptions and beliefs that underlie teaching practices.

As developers search for a foundation and framework for their implementation efforts, several areas of study provide useful starting points. In particular, this review looks briefly at: adult education, faculty collegiality, the current paradigm shift in teaching, and effective staff development. These four areas provide a backdrop for the four articles that comprise this volume.

Adult education and adult learning

The body of literature on adult education and adult learning is one starting point for the design and implementation of faculty development efforts designed to impact beliefs as well as action. Three foundational concepts will be reviewed. These include the concepts of andragogy and self-directed learning, transformative learning, and reflective teaching.

Andragogy and self-directed learning

Interest in self-directed learning gained popularity with Knowles' (1984) work on andragogy. Introduced as a theory to understand adult learners contrasted with pre-adult learners, andragogy is seen more often as a set of principles of good practice. From this perspective, five assumptions form the basis of andragogy that describe the adult learner as someone who 1) has an independent self and can direct his or her own learning, 2) has accumulated multiple life experiences that serve as a source for learning, 3) has learning needs related to his or her social role, 4) is interested in practical approaches to problem-solving, and 5) is motivated to learn more by internal than external factors (Merriam, 2001).

Knowles proposed that the design, implementation, and evaluation of activities for adults

should be guided by these principles of adult learning.

Self-directed learning has attracted numerous adherents. Candy (1991) proposed a

four-faceted typology of self-directedness. These aspects are: personal autonomy or the

tendency to think and act autonomously; self management or the willingness to conduct

one's own education; learner control or participation in decision-making about what is to be

learned; and autodidoxy, or the "non-institutional pursuit of learning opportunities in the

natural setting" (p. 23).

Perhaps the most significant contribution made by the literature on self-directed

learning is that it has alerted educators to the fact that they should involve learners in as

many aspects of the learning process as possible (Houle, 1996). As a vehicle for faculty

development, a self-directed model would assume that faculty will initiate efforts to improve,

will make their own decisions about what they want to learn and how learning should occur,

and will pursue learning apart from sponsored efforts.

Transformative learning

Another foundation of adult education is the concept of transformative learning. The

major theorist associated with transformative learning is Mezirow (1991, 1996).

Transformative learning takes a constructivist orientation to learning. In short, knowledge is

not discovered but rather is created from interpretation and reinterpretation of meaning.

According to Mezirow, learning is a meaning-making activity: "Learning is understood as

the process of using a prior interpretation to construe a new or a revised interpretation of the

meaning of one's experience in order to guide future action" (1996, p. 162). Mezirow

believes that adult educators have a responsibility to prompt critical reflection on the part of

learners to create opportunities for new meanings of experience to be formulated.

The revised viewpoint that results from the process of critical reflection and

examination is what Mezirow calls a "perspective transformation." Adult learners use three

perspectives to make meaning: psychological meaning is based on how people see

themselves; sociolinguistic meanings are based on one's social norms, cultural codes, and

language; and epistemic meanings emerge from what is known and how knowledge is used.

Any of these perspectives may contain flawed assumptions. Reflection is the key to

becoming aware of gaps or distortions.

According to Mezirow, significant transformation involves a recursive process. The

process is most often initiated by a disorienting dilemma. The dilemma cannot be resolved by

using previously learned problem-solving strategies. This inability to resolve the dilemma

brings the learner to the phase of self-examination. Such assessment entails a critical

examination of the assumptions that underlie the viewpoint. Next, people share their new

perspective with others. The learner explores options for new roles and relationships, which

results in a reintegration and acting from the changed perspective.

Reflective teaching

Numerous references exist in educational literature related to the idea that teachers

ought to be reflective about their teaching (Cruickshank, 1987; Killen, 1995; Osterman and

Kottkamp, 1993; Qualters, 1995; Zeichner & Liston, 1987). Much of the writing in adult

education about reflection draws directly or indirectly on the work of Schon (1983).

In The *Reflective Practioner: How Professionals Think in Action* (1983), Schon

describes how professionals (a concept that includes faculty and faculty developers) behave

when they face problems or challenges or ill-defined situations where their typically skilled responses appear to be inadequate. First, they name the problem. Next, they take action. Finally, they examine the consequences of their action. They listen to the internal feedback from the situation to see if they have solved the problem they named. If so, they move on. If they have not, they find a new strategy or they reframe the problem. Schon called this three-step process "reflection-in-action." Through the process of reflection, practitioners can bring to consciousness and evaluate the understandings that are part of their experiences. As a result of reflection, they are able to make sense of situations when they arise.

The basic idea behind reflective teaching is that teaching will improve when teachers take the time to think about what they are doing and why they are doing it. Theorists in this area desire to help teachers understand, challenge, explore, and take seriously their own insights about teaching and learning. Moreover, they believe that a shortcoming of traditional conceptions of educator development has been the disregard for teacher's knowledge and the heavy emphasis on researcher's knowledge - a view that sees the teacher as an implementer of the theories of someone else rather than as a researcher of his or her own work setting. By way of contrast, good teachers in the traditions of reflective practice are regarded as those who have habits of inquiring into their work and uncovering the underlying assumptions that support their teaching practice. These teachers also make it part of their practice to experiment with new ideas and revise their teaching accordingly (Brookfield, 1995).

Educational literature suggests that teachers who practice reflection stand to gain tangible benefits. Korthagen and Wubbles (1991), for example, report that reflective teachers experience a higher level of job satisfaction and have better interpersonal relationships with students than do other teachers. They suggest further that reflective teachers have a strong

sense of self-efficacy and that they are more likely than other teachers to allow students to

learn by exploring and structuring activities for themselves (Killen, 1995, p. 127).

In *Becoming a Critically Reflective Teacher*, Stephen Brookfield (1995) suggests

several other reasons why teachers should be encouraged to be reflective. Reflection helps

teachers take informed action, develop a rationale for their practice, avoid punitive self-talk,

ground themselves emotionally, enliven their classroom, and increase democratic trust.

Informed actions are those that can be explained to others. When students or others ask

teachers why they are doing something, teachers can explain the basis of their action.

Moreover, an informed action has a better chance of achieving its intended consequence.

Beyond the utilitarian reason for reflection, reflection helps teachers develop a rationale for

their practice. Developing a personal rationale for practice is a necessity for survival.

Without one, teachers are tossed about by whatever reform wind happens to be blowing at

the time. Reflection also helps teachers deal with self-talk. According to Brookfield, teachers

who take their work seriously have a tendency to blame themselves if students are not

learning. They believe that at some level they are the cause of the hostility, indifference, and

apathy they experience in the classroom from time to time. Believing that they are the cause

of these classroom ills, they also have a tendency to believe that they are the solution. Such

teachers may embrace various reforms bound and determined to reach students and instill the

joy of learning. When this does not happen (and it will not always happen), these teachers

suffer guilt and draw the faulty conclusion that they are pedagogically incompetent.

Maintaining the habit of reflective practice helps teachers balance their efforts to improve

their practice with the reality that resistance to learning often has nothing to do with what

they have done. This realization helps free up teachers to develop more realistic appraisals

and goals for their work. Reflective practice recognizes that teaching is emotional work. Such an understanding is necessary to endure the good days and bad days that are part of the teaching life. Reflection has potential for enlivening classrooms by helping students become critical thinkers. Finally, teachers are positioned as change agents. What they model in the classroom can make a difference in the world. Teachers who reflect on their practice have a sense that how they design learning situations or how they ask questions can work to silence students or to open up practical possibilities. Critical reflection encourages teachers to create conditions where each person feels valued and heard.

Educational literature also suggests ways to foster reflection. Three points of entry include keeping a journal, reviewing videotapes of one's practice and conducting periodic learning audits about one's teaching.

Reflective journal. Keeping a regular learning journal can provide meaningful insights for teachers own practice. As a way of developing an ongoing relationship with oneself and one's work, a journal can be a dynamic tool.

A journal can be a means by which teachers bring into fuller awareness some of the deeper processes through which they make meaning. Journal writing can be helpful for providing a focus for one's practice. The journal is a place where teachers can describe their personal questions about teaching and how these questions are reflected on, analyzed, resolved and put back in the classroom. Such writing and research about one's practice over time can be used to evaluate experiences and reveal the nature of development.

Professional conferences, workshops, and professional development activities are potential places to hone the skill of keeping a reflective journal about one's learning. Studying one's own reactions to such sessions can provide insights into the kinds of activities

that encourage learning or discourage learning and can fundamentally change the way a teacher goes about the work of helping students learn.

Videotape. Videotaping classroom practice can be an eye-opening, if not shocking way to get an idea of how students experience teachers' ways of teaching. A videotaped record of a class is a quick way to spot distracting mannerisms that teachers have which may be distracting and confusing to students but about which they might be unaware.

Faculty can use these tapes to remind them of important events that happened in the lesson, and to help them assess the effectiveness of the various teaching strategies that were used. Videotaping also provides teachers with an accurate assessment of the time they devote to various activities. They may find that more time is devoted to teacher talk and less class time is devoted to student activity than they were aware. Referring to a tape, the teacher can see how much time is spent giving directions and how much time is left for students to reflect and practice.

The videotape can provide a general sense of the lesson. From a videotape, teachers can become more aware of how often they smile, frown, or look blank. They can see how often they give encouraging feedback and affirmations to students. Teachers can listen carefully to the feedback they give, and how they give it, to get a better sense of whether or not it is constructive. They can see how they react when faced with student criticism or how they handle opinions different from their own. By viewing tapes several times, teachers can identify their major strengths, and the aspects of their teaching that need improvement.

Teacher learning audit. Another reflective tool that teachers can use to help them examine their teaching practice is the teacher learning audit (Brookfield, 1995). The audit can be conducted on a course or as an annual review. The purpose is to identify the

knowledge, skills, and insights recently gained. Sample reflective questions from the audit

include:

Compared with this time last term/year, I now know that...

Compared with this time last term/year, I am now able to ...

The most important thing I've learned about my students in the past term/year is

The most important thing I've learned about my teaching in the past term/year is

The assumptions I had about teaching and learning that have been most confirmed for me in the past term/year are that ...

The assumptions I had about teaching and learning that have been most challenged for me in the past term/year are that ... (pp. 75-76)

The learning audit encourages teachers to think of themselves as learners. Self-

awareness helps keep teachers engaged in their work and is a valuable source of information

to teachers regarding how they learn.

Reflective practice has implications for faculty development. As a vehicle for teacher

growth, reflective practice views faculty development as a process whereby faculty members

become aware of their assumptions about teaching and learning and revise them based on

constructing new meaning individually and with colleagues. Cranton (1994) has done some

work applying the theories of reflection to faculty development. She observes that while

many faculty development activities appear voluntary, the reality of higher education culture

reveals they are mandatory. In this sense, traditional faculty development practices are less

than empowering, designed more for forming rather than transforming practice. She goes on

to suggest that the transformative element could be introduced into development efforts by

using two approaches: first, by engaging faculty in action research on their teaching and

second, by developing faculty group programs, long-term mentors, or on-going peer

consultations. These vehicles allow faculty to examine the assumptions that serve as the foundation of their practice.

Improving teaching through collegial interactions

A second source of information for faculty developers seeking to design transformative experiences for faculty is the growing body of literature urging far more collective experiences for faculty. Such experiences can be large group discussion or a special form of collaboration such as peer coaching.

Collegial discussion

As Parker Palmer (1993) notes, college professors belong to one of the few professions that do not engage in continuing conversation with colleagues. Palmer calls this phenomenon the "privatization of teaching." Privatization has negative consequences for individuals and for institutions. The wear and tear on individual psyches results in one of the greatest dissatisfactions of academic life: the isolation experienced by faculty members who might once have been inspired by the notion of the community of scholars. At an institutional level, privatization creates a gap between official rhetoric espousing the value of teaching and learning and the actual conditions that support teaching and learning. The lack of actual supports makes it impossible for institutions to achieve their stated teaching missions.

Palmer laments the practice of reducing teaching to technique, a practice that mirrors the wider society's tendency to search for technical fixes rather than taking on the deeper challenges of being human. Parker sees the humanity of teaching and favors the creation of communities of discourse about teaching where teachers are expected and invited to enter into the tangles of teaching, exploring their relationship to their students, their subjects, and their selfhood as teachers.

He advocates four techniques to bring teachers out of isolation and into communities of practice. The first technique is based on critical moments in teaching. Palmer defines a critical moment as one when "a learning opportunity will either open up or shut down for your students" (p. 10). There are many moments in the classroom including the first day of class, the moment a student lights up when he/she gets the concept a teacher is presenting, the first time the teacher is challenged, and many others. By identifying these moments and engaging in thoughtful conversation about them, teachers not only can talk about methods but also about the larger contexts of their practice. Such discussion helps teachers grow as they recognize again and again how challenging teaching can be.

The second technique for creating talk about teaching is the human condition of teachers and learners. This dynamic stresses the spirit and humanity of the teaching interaction. From this perspective, knowledge of oneself is a prerequisite for knowing one's students. Such self-knowledge is vital when encountering classroom behaviors of students (distraction, silence, etc.). Keeping in mind the fears one has as a teacher helps teachers avoid the temptation to slip into low opinions of students when meeting these behaviors, choosing instead to make the classroom a viable space where fear can be overcome and learning can happen.

A third conversation starter is to explore metaphors and images that describe who one is as a teacher and what work one is doing as one teaches. Identifying metaphors gives teachers insights into the nature of their own learning and teaching and helps teachers name the assumptions that serve as the foundation of their practice.

A fourth focus for beginning a conversation about teaching is to reflect on the teachers who influenced one's decision to become a teacher. This exercise helps teachers

move beyond a preoccupation with method as they are reminded that great teachers are not defined by a method. What matters more, is that these teachers combine their selfhood and method in such a way that their lives reflect the questions they ask their students to study.

Palmer is not alone in calling for community and conversation and in naming the cultural boundaries that need to be addressed for these structures to become a reality. Brookfield (1995) notes three cultural barriers similar to Parker's notion of privatization: the culture of silence, the culture of individualism, and the culture of secrecy. The culture of silence and secrecy combine to make faculty feel that seeking help on matters of pedagogy, curriculum, or assessment is admitting to a lack of competence. In addition, the individualistic culture of many institutions utilizes a reward structure that frustrates the spirit of collaboration. The language of collaboration is embraced but the power of collaboration is undercut by the toll taken on those doing this work in a system lacking reward for such effort. Overall, the cultural impediments encourage faculty to hide behind a mask of command that covers the pervading sense of isolation and feeling of impostership.

Brookfield (1995), like Palmer, recommends conversation and collegial relationships as a way to empower teachers and as a way to improve teaching and learning. He also values the use of critical incidents in teaching and describes a technique using critical incidents to encourage professors to reflect on their practice in order to learn from their experiences. While the technique can be used by individual professors, the nature of critical incidents is such that they are useful in starting conversation with faculty. Brookfield offers questions that prompt teachers to reflect on their practice and attitudes. Sample questions are:

> Think back over the past week (or month, or semester). Choose an incident that made you say to yourself, "This is what makes my life as a teacher so difficult." Write some

notes about the incident making sure that you include details of where and when this event happened, who was involved, and what it was that made the event so full of significance for you (p. 148).

Think back over the past week (or month, or semester). Choose the event that caused you to say to yourself, "This is what teaching is really all about." Write some notes about this incident. Make sure that you write down where and when the event happened, who was involved, and what it was that made the event so full of significance for you (p. 149).

According to Brookfield, several things happen when critical incidents are used. First, as themes emerge from critical incidents, teachers can pick which issues they want to explore in more detail. Second, teachers realize they are not alone in their struggles. Third, as illustrated by the questions, critical incidents need not be negative. If the only topics conversation groups ever talk about are defeats and barriers, the mood can take a dark turn. It is important to find reasons to celebrate teaching. Faculty developers using critical incidents should seek to find a healthy balance between low points and high points.

Peer coaching

It is possible for faculty to learn a great deal about their teaching by developing the habit of reflective practice. Faculty learning is enhanced if a journal of teaching experience is kept, and if some lessons are video recorded. Even still, there is a limit to how much one can learn from self-reflection. The full benefits of critical reflection occur if the process involves sharing ideas with colleagues (Brookfield, 1995; Killen, 1995). One special form of collaboration is peer coaching.

Peer coaching is an effective way to encourage professors to talk about their teaching practice and its implications for student learning. Peer coaching is a structured process whereby faculty members assist each other with enhancing their teaching effectiveness through a) the development of observation criteria; b) non-evaluative classroom observations; and c) constructive feedback (Kinsella, 1995). For those brave enough to try it, collegial observations can be one of the most helpful sources of insight available.

Successful peer coaching is more difficult than it first appears. From a conceptual standpoint, peer coaching can potentially lessen the psychological isolation that typically characterizes the university workplace. However, from a practical standpoint, instructors who have rarely opened their classroom doors to observers are apt to feel threatened by the process. This fear is compounded by the fact that the only time college instructors tend to find colleagues in the classroom is when they are up for reappointment or tenure and are forced to submit to classroom observation. Therefore, it is not surprising that many professors are hesitant to engage in an activity that they fear might result in public humiliation. Fortunately, there are several things that can be done to ease the process and make it less intimidating than it might otherwise be.

Faculty who enter a peer coaching relationship must feel comfortable discussing events that happen in the classroom, so trust and respect are necessary elements of the relationship. Also, the coaching process must be understood to be reciprocal. The invitation for one partner to observe in the other's classroom will be returned in kind. In addition, making practice opportunities available beforehand can ease instructors into the process.

From a practical standpoint most coaching should be performed by pairs of active classroom instructors working together to improve their teaching rather than pairing faculty

with administrators, senior faculty, or developmental specialists. The latter circumstances create potential for misunderstanding. Peer relationships minimize status and power differentials facilitating a more trusting and collaborative atmosphere.

When colleagues come to the classroom, it is good practice to tell students who they are and why they are there. It is not necessary to inform students about the specific observation criteria, but it is helpful to let them know that the purpose of allowing visitors into the classroom is to improve the quality of teaching and learning.

The peer coaching process typically includes three stages (Licklider, Schnelker, & Fulton, 1997). Stage one is the pre-observation conference, where learning partners meet to clarify the goals for the observation visit. Through the use of questions such as "What is your objective for this lesson?" or "How will you know if students achieve the objective for this class?," the observing partner can help the instructor reflect and make explicit the purpose of the lesson, the intended student outcomes, the planned strategies, etc. The goal of this discussion on planning is to focus attention on how and why the instructor decided what to do in the classroom. The challenge at this stage is not to pick too many goals for one lesson. The instructor may also ask the observer to pay particular attention to a special area of concern.

Stage two is the actual classroom observation and collection of data. During this stage the observing partner takes descriptive notes guided by the pre-observation conference (e.g. what the instructor did, how the students reacted, what things seemed to help or hinder student learning, and so on). The observer records information about the classroom experience but does not judge the instruction.

As soon as possible after the classroom observation, the partners meet for a post-conference to discuss the lesson. During this session, partners reconstruct the details of the observed session comparing views of what happened and why it happened. This is a difficult stage when learning the peer coaching process, because faculty may feel uncomfortable talking about what happened during the lesson. Therefore, it is important that the observing partner refrain from making evaluative comments or offering advice. Instead, the role of the observing partner is to encourage the instructing partner's reflections about the learning experience.

Peer coaching sessions are grounded on the idea that observers are likely to gain valuable insights into their own practices when they open their door to a caring coach. Training in coaching is considered by some researchers to be a need (Joyce & Showers, 1982; Licklider, 1986). From this perspective, peer coaching can be incorporated into a faculty development program. Training can be provided before the first classroom visit occurs and follow-up training can continue while the program is underway. It is important for faculty to learn how to give constructive feedback, noting what goes well in the classroom, and identifying the instructing partner's strengths before pointing out areas needing further work.

Whatever strategies learning partners use to encourage reflection, they will become more aware of their strengths and weaknesses as teachers. This increased awareness helps teachers realize the things they do that help students learn, and the things they do that are less helpful. Knowing these things, can help faculty members plan to make their teaching even more effective for improving student learning.

Shifting paradigms in college teaching

A third body of literature that seeks to change practice and thoughts is the emerging literature on learner-centered teaching. Not only do developers need to be aware of these practices in order to help faculty, they also need to know the implications of these participant-centered strategies for their own work with adult learners.

Call to action

Criticizing higher education has been something of a national pastime since its development. Still, the criticism reached unheralded proportions at the close of the twentieth century. From numerous quarters concerns surfaced that college graduates did not have the skills needed in the workplace. Politicians and the public began to question the value of a college degree. At all levels of education a reform movement began (Ewell, 1991).

In addition, the traditional teaching method of teacher as dispenser of information appears outdated. Studies have found that lecture, while not ineffective, is not as effective as other methods for changing thoughts and attitudes. Moreover, that active learning techniques work has been demonstrated (Marzano et al, 2000; Slavin, 1990).

The traditional curriculum also came under attack. For instance, Project 2061 charged that the current science and mathematics curriculum is "overstuffed and undernourished. They emphasize the learning of answers more than the exploration of questions, memory at the expense of critical thought, bits and pieces of information instead of understanding in context, recitation over argument, reading in lieu of doing. They fail to encourage students to work together, to share ideas and information freely with each other, or to use modern instruments to extend their intellectual capabilities" (1990, p. xvii). These findings suggest that traditional methods of college teaching must change to improve student learning.

One proposed solution to persistent shortfalls of the current educational system is to prepare students to be active and engaged learners. Guskin (1997) describes the challenge:

The primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen is contrary to almost every principle of optimal student learning setting....Intimate faculty student-contact that encourages feedback, that motivates students, that allows students to perform is the exception and not the norm (pp. 6-7).

The current view in higher education is that to improve teaching more attention should be paid to student learning (Cross, 1990). Indeed, since the mid-1980s a chorus of prominent voices has endorsed this shift from teaching to learning. Angelo (1994) observes that "most faculty development efforts focus primarily on improving teaching and only secondarily, if at all, on improving learning" (p. 4). Chickering & Gamson (1987) state, "learning is not a spectator sport. Students do no learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves" (p. 3). Knapper (1995) puts it bluntly: "The bottom line is learning" (p. 70).

Huba and Freed (2000) note the kinds of changes that must be made to take learning and teaching seriously. The idea of focusing on learning rather than teaching requires rethinking the roles of students and teachers in the learning process. It means challenging our bedrock assumptions about learning, teaching, and assessing. It requires unlearning traditional habits of practice. It means redesigning syllabi and even, entire courses. Ultimately it means changing the culture of our institutions.

Paradigms of teaching: Old and new

What is the old paradigm (sometimes referred to as the teacher-centered or objectivist paradigm) that colleges are leaving behind? What is the new paradigm (sometimes called learner-centered or constructivist) that colleges are entering into? Numerous authors have detailed the differences between these two views of learning and teaching. This review follows the work of Smith and Waller (1997). Similar descriptions can be found in Barr and Tagg, (1995); Bonstingl (1992); Boyatzis, Cowen, Kolb and Associates (1995); Duffy and Jones (1995); Huba and Freed (2000); and Johnson, Johnson, and Smith (1991).

The different paradigms of teaching and learning implicate different roles for teachers and learners. They also suggest different views of knowledge.

The traditional view of teaching is grounded in a worldview that sees the learners as a nearly empty vessel. In this view the relationship between teacher and student is such that the communication flows in a one-way direction from the teacher to the student. The teacher's role is to give his or her knowledge to the student. The role of the student is to receive the instructor's knowledge. This view also assumes that what the instructor says is automatically internalized by the student and learned.

In this view, students are passive. They accept the relationship set by the teacher. Rarely do students have a voice in the selection of content. The principal mode of delivery associated with type of teaching is the lecture. The structure of the course is typically provided by the textbook. One outcome of the institutionalization of this dominant paradigm is professors concern about covering the material.

In the traditional educational environment students are expected to memorize the material covered by the instructor. Frequently the material to be memorized is presented

outside the context in which it will be used. Homework assignments usually consist of well-defined problems found at the end of textbook chapters, accompanied by the answer key found in the back of the book. Although faculty claim they value higher order thinking on the part of students, the course syllabi and assignments frequently require only lower level thinking.

In the traditional view, a primary function of education is to classify students and to weed out defective students. This sorting process is based on the idea that ability is a fixed commodity.

Teaching and assessment are considered to be separate activities. Assessment is conducted primarily in the "objective mode." Minimum formats (e.g., multiple choice, fill-in the blank, etc.) and infrequent testing is typical. Student evaluations are the sole method of evaluating the course.

The emphasis in this model of teaching and learning is on finding the right answers. Knowledge in this model is seen as fixed. Professors are seen as the sole authority.

The learning culture is competitive and individualistic. Students try to outdo their peers. Similarly, faculty members try to outdo their colleagues.

Most college teachers are familiar with this paradigm. This is the paradigm they experienced as students. For teachers who have been teaching for some time, the paradigm has become second nature. Because the paradigm has enjoyed such momentum, some teachers see it as the only possibility. Other teachers, however, have shown an interest in alternative ways of teaching. The constructivist view of learning has been in the vanguard of these ideas. Several important ideas accompany this paradigm.

The central idea of this philosophy is that human learning is constructed. In this view, learners build new knowledge using what they already know. This view of learning contrasts sharply with the traditional model where reception, not construction, is central. From a constructivist perspective, there is no blank slate on which new knowledge is scripted. Rather, learners come to learning situations with understanding gained from previous experience. This prior knowledge influences the knowledge they will build from new learning experiences.

This perspective casts the learner in an active, rather than passive role. Learning is more complicated than the memorization of discrete facts. Students learn by creating connections and discovering relationships.

In this view the role of the teacher is redefined. Teachers are considered coaches and facilitators. The teacher's role is to create conditions that allow students to test the adequacy of their current understanding. Teachers' efforts are aimed at helping students develop their talents and abilities rather than weeding out defective students.

In a learner-centered approach to education, teaching and assessment are seen as complementary activities. Assessment is conducted in a variety of formats and frequent testing is typical. Students have the opportunity to review their progress as learners. Teachers seek student feedback during the course in addition to the end of the semester evaluation.

Asking better questions is a major focus of this approach of learning and teaching. In this setting, the teacher is a co-learner rather than the sole source of knowledge. Power is shared between students and faculty and a diversity of perspectives is valued.

A cooperative, collaborative and supportive context is encouraged. A collaborative culture encourages interaction among classmates and instructors and encourages the active construction of knowledge.

Implications for faculty development

The new paradigm of teaching and learning also has implications for faculty developers. What professional development activities can support faculty who want to teach in learner-centered ways?

Recognize faculty as adult learners. First recognize that construction of learning is not something that only students do, but is the province of all learners. With this in mind, any successful effort would consider faculty participants as learners.

Provide time to build community. Teaching that contributes to deep effects on participating faculty will not come in one-day workshops. It is too easy for these single shot workshops to devolve into sit and get sessions where one or two experts disseminate their method of doing things. While these single sessions can be beneficial for introducing issues and renewing spirits, they fall short of achieving transformative changes. True dialogue requires the establishment of a base of comfort, mutual respect and trust, and a sense of shared purpose. Creating this kind of communal environment requires time.

A sustained period of time together allows participants to share their backgrounds, their pedagogies, their expertise, their challenges and their frustrations. As faculty share their lives and their practice, critical incidents will invariably surface. Finding out that other professors in vastly different fields struggle with the same kinds of issues creates synergy and a sense of purpose in working together toward shared goals.

A learner-centered approach to faculty development gives teachers time to make explicit their own understandings of learning and teaching. Furthermore, exposure to a range of conceptualizations about what it means to teach and to learn inevitably expands and challenges participants' pedagogy providing opportunities for testing understandings and building new ones.

Utilize content, processes, and structures that support learning. Educational developers would do well to remember the maxim that teachers teach as they are taught, not as they are told to teach. Thus, facilitators in a learning-centered program should model a learning-centered approach. It is not enough for facilitators to describe new instructional approaches and expect teachers to translate the talk into action. It is more effective to involve participants in activities that will lead to new behaviors in classrooms.

Lessons from staff development

A final frame for designing effective programs is the literature from staff development. This literature has documented the need teachers have for demonstration, practice, feedback and coaching. As such, this body of literature provides insights into structuring learning experiences for adult learners. Some of the common features of effective staff development practice are summarized here. These comments echo the themes highlighted in the review thus far.

Content

Professional development should emphasize the integration of program content and discipline-specific content. Without contextualizing development activities within teachers' current understanding of teaching and within their field of study, efforts are unlikely to

increase teaching competence. In addition, content is based and paced according to participant needs (Butler, 1989; Sparks, 1983).

Structure

Research clearly indicates that single session workshops do not give teachers the time, activities or content necessary for increasing their knowledge (Butler, 1989; Joyce & Showers, 1980, 1982, 1988; Licklider, 1986). A more effective structure incorporates multiple sessions over an extended period of time. Such a schedule provides the opportunity to present new learning in small pieces and to try out new skills while adapting them to individual settings.

Another factor that contributes to effective staff development is clear, specific goals and objectives which are established with the active involvement of the participants (Butler, 1989; Sparks, 1983). Participant involvement ensures that the content of the program evolves according to the needs, level of awareness, mastery, and concerns of participants.

Key to successful staff development programs is the opportunity for participants to practice and experiment with new strategies in non-threatening environments. Creating an environment that encourages experimentation is facilitated by scheduling activities at convenient times and at convenient locations, and providing constructive, non-threatening feedback (Tiberius & Billson, 1991).

Administrative support is also an important element of successful staff development. Administrators can encourage participation by providing opportunities, encouragement, incentive and financial support. They can also be instrumental in promoting an atmosphere that supports experimentation.

Process

The new paradigm of development encourages collegiality among teachers. Collaborative participation has numerous advantages. It allows teachers to discuss concepts and problems that arise during the course of an activity. It allows teachers the opportunity to integrate their new learning with other aspects of their practice. It also helps to contribute to a shared culture and vision for needed changes (Birman, Desimone, Porter, & Garet, 2000).

Active learning is an important aspect of successful programs (Lieberman, 1996). Active learning encourages teachers to become engaged in meaningful discussion and effective planning.

Effective staff development consists of multiple components and a variety of instructional strategies (Butler, 1989; Joyce & Showers, 1988; Licklider, 1986; Sparks, 1983). The basic components include diagnosing teaching skills, building the awareness of the need for change, providing the theory base for new approaches, and then demonstrating or modeling the application. Practicing new teaching skills, receiving feedback, and coaching are also important. The purpose of diagnosis is twofold: assessing participants' needs relative to new knowledge and increasing awareness of the need for change. The theory base supporting the new approach and modeling the approach is provided to clarify the foundation of the approach and to make its associated behaviors explicit.

The most effective staff development opportunities present content through a variety of instructional strategies. These may include live models, videotapes, and experiential activities. Microteaching and role playing provide opportunities for practice and feedback.

Method

This dissertation is a report of a participant observation study of a faculty development program, Project LEA/RN (Learning Enhancement Action-Resource Network).

The main research interests were two: 1) to better understand the experiences of the participants in the program; and 2) to identify the wider dynamics of which the program was a part.

Both interests touch on the major dynamic of educational change. As noted by researchers, time and time again, the constant in education is change. Larry Cuban, for instance, notes that reforming higher education has been constant work (1999). Bogdan and Biklan (1992) observe that change is important because the goal is to improve life. However, improvement is a challenge because beliefs, lifestyles, and behaviors often come into conflict. A long standing shortcoming of educational reform efforts is that those people, who demand change, often fail to understand how participants involved in the changes think. Consequently, they do not anticipate participant's reactions. Since it is people in the setting who must live with the change, it is their definitions of the settings that are crucial if change is going to be ongoing and transformative. These human dynamics of the change process are what qualitative strategies are designed to study. Their emphasis on the perspective of participants and their concern with process fit the questions of interest to this study. Furthermore, insights from this study into aspects of educational practice can have a direct influence on practice, policy, and future research.

Specific field approaches used in this study include: attendance at meetings, workshops and social activities, informal and formal conversations, transcription and analysis of large group discussions and analysis of written responses. Written responses included journals, structured reflections, practice inventories, lesson plans, and pre-and post-observation conference notes. Program respondents were assured that their responses and written reflections would be treated confidentially.

The evaluation of the program occurred simultaneously with the presentation of the program (Patton, 1987). This process allowed program leaders to continually improve the model and program content. The strength of the program comes from listening to the participants and responding to their needs as learners. It was anticipated that this information would contribute to the project's capacity for motivating and sustaining further change.

The effectiveness of the project was determined by looking for themes and patterns in the data. Categories were identified as suggested by the data. The data analysis followed a deliberative process that allowed for corroborating categories between the data sources. Themes were also informed by the literature on teaching/learning and educator development.

Trustworthiness (validity) was pursued in several ways (Lincoln & Guba, 1985). First, data were collected over an extended time. Second, various forms of data were collected to enable the triangulation of data. Third, conceptual categories were developed from the data. The iterative process of generating categories helped ensure both the validity and the clarity of themes. Finally, coding categorization and emerging themes were discussed with others through peer review and members checks to challenge the interpretation.

Reliability was addressed similarly through the ongoing process of data collection and analysis and peer review of categories. This negotiated process contributed to the reliability of the findings.

Summary

The professional development of faculty is being viewed as a key ingredient to improving student learning. The literature on adult education and learning, faculty collegiality, learning-centered approaches to teaching, and effective staff development offer

practical possibilities for designing and implementing professional development programs to

help faculty make their teaching more meaningful and effective.

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REVISIONING FACULTY DEVELOPMENT: THE FOUNDATION AND FRAMEWORK

A paper published in the *Journal of Staff, Program, and Organizational Development*[1]

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The education reform movement of the 1980s generated intense scrutiny of the practices and effectiveness of higher education. Reports (e.g. Association of American Colleges, 1985; Study Group on the Condition of Excellence in American Higher Education, 1984) concluded that institutions were not preparing students to meet the demands of the next century. Reforms called for improving the quality of teaching among faculty.

Educators and business leaders have identified essential skills, knowledges, and characteristics needed by all students to prepare for the increasingly technical and competitive world including: greater competence in science, mathematics, and technology (National Science Foundation, 1996); critical thinking and problem solving; respect for diversity; lifelong learning; interpersonal communication skills and teamwork (Gardiner, 1994). According to the NSF report, a society without such an educated citizenry "will be at great risk and its people denied the opportunity for a fulfilling life" (p. 2).

Not only are the skills needed by next century students changing, so too are the students themselves (Plater, 1995). The student body has changed dramatically as colleges and universities have opened their doors to traditionally under-represented groups. Another noteworthy change is that students come to higher education with greater expectations of what they can expect from their undergraduate experience.

The knowledge and skills required of faculty to support students learning in these changing times are substantial. Yet faculty are seldom equipped for the task, entering the classroom with little formal training about teaching beyond the knowledge of their disciplines (Cranton, 1994). Furthermore, campus culture does little to support the development of this expertise, despite official rhetoric to the contrary (Palmer, 1993). Such a casual approach to learning and teaching and faculty development must be directly responsible for the poor quality of our undergraduates experience (Gardiner, 1994) a situation that won't change until institutions view and invest in faculty development as the foundation for student development.

The last two decades have seen the growth in professional methods and strategies for faculty development (Boice & Turner, 1989; Brookfield, 1987, 1995; Eble & McKeachie, 1985; Katz & Henry, 1988; Light, 1990). Much of this growth stems from recent work in adult education which has provided a much needed theoretical base for the practice of faculty development (Cranton, 1994; Weimer & Lenze, 1991). Such approaches see faculty as co-learners and faculty development as adult education. This view of faculty and faculty development is further supported by the literature on effective staff development.

The purpose of this article is to describe an interactive model of faculty development based on these two bodies of literature. Accordingly, this article divides in three sections. The first section examines adult education literature and its implications for faculty development. The second section reviews staff development research and its implications for framing practice. The third section describes the interactive model.

This model has been used in the College of Engineering at Iowa State University to improve learning and teaching. The implementation effort at Iowa State is described in a

companion article (Fulton, Licklider, & Schnelker, 1997). While faculty development efforts

are most often directed at the improvement of learning and teaching, the model could be

applied to any targeted area of development (e.g. teaching, curriculum development,

scholarship, university service.)

The Foundation: Lessons Learned from Adult Education

Recent work in adult education provides the theoretical foundation for

reconceptualizing faculty development evident in the new approaches. Underlying these new

approaches are key concepts such as self-directed learning, reflective practice, transformative

learning, and teaching as community.

Self-directed learning

Interest in self-directness gained popularity with Knowles' (1984) work on

andragogy. Since then, self-directedness has become firmly embedded in the adult education

literature (Brookfield, 1993).

Cranton's work with faculty (1994) builds on Candy's (1991) four-faceted typology

of self-directedness. Those aspects are: personal autonomy, the tendency to think and act

autonomously in all situations; self-management, "the willingness and capacity to conduct

one's own education" (p. 23); learner control, the learner's decision-making about what is to

be learned and how that learning will occur; and autodidaxy, the "noninstitutional pursuit of

learning opportunities in the natural setting" (p. 23).

From this perspective, a self-directed model of faculty development would assume

that faculty will initiate efforts to improve, will make their own decisions about what they

want to learn and how learning should occur, and will pursue learning apart from sponsored

efforts. Furthermore, faculty developers in this model cannot do the learning for faculty.

Instead, the role of the developer is to provide activities and to offer support, guidance, and expertise as needed.

Reflective practice

The work of Schon (1983) gave impetus to attention on reflective practice. Numerous references to reflective practice now appear in educational literature (Cruickshank, 1987; Killen & Killen, 1992; Zeichner & Liston, 1987).

Central to reflective practice is the idea that educators continually examine what they do and the contexts in which they do it. Faculty who practice what Schon calls "reflection - in-action" first accept that the underlying assumptions that frame how they perceive and practice their craft should be questioned, and then secondly, faculty seek ways to improve upon what they do. From this perspective, teaching is more than techniques and routine. As faculty pause to critically reflect on their actions and behaviors they anlayze the logic of their thinking, seek to understand what they do and reasons why they do it, and imagine alternative structures and processes. Through such reflective practice faculty improve their teaching and their students' learning.

Transformative learning

Mezirow's (1991) theory of transformative learning bears resemblance to Schon's reflective practice. According to Mezirow, learning is the process of becoming aware of one's beliefs and assumptions and revising them based on critical self-reflection. According to Mezirow, adult learners use three perspectives to develop meaning: psychological meaning is based on how people see themselves; sociolinguistic meanings are based on one's social norms, cultural codes and language; and epistemic meanings emerge from what is known and

how knowledge is used. Any of these perspectives may contain flawed assumptions. Reflection is the key to becoming aware of gaps or distortions.

Brookfield (1995) draws on Mezirow's ideas in his work with faculty. Arguing that the key to improving teaching lies in uncovering hidden assumptions, Brookfield advocates several strategies that allow faculty to examine their underlying assumptions including reflection on their autobiographies as teachers and learners, examining teaching practices through the eyes of students, engaging in critical conversations with colleagues and inviting them to watch what we do, and understanding practice in light of theoretical literature.

Community

As Palmer (1993) notes, members of the professoriat belong to one of the few professions that do not engage in continuing conversations with colleagues. This "privatization of teaching" has had negative consequences for faculty, leading to isolation and dissatisfaction, and, for institutions, making it difficult for academe to improve student learning. According to Palmer, a community of discourse about learning and teaching must be created. Shulman (1993) echoes similar sentiments, arguing that faculty must move beyond pedagogical solitude toward a view of learning and teaching as community experience.

Such rich conversation among colleagues needs to be framed in ways that move talk about teaching beyond "how-to" techniques to the deeper dimensions of teaching. Palmer offers four strategies to promote this kind of conversation. The first strategy is to identify critical moments in practice. Reflection with colleagues on those incidents that have particular significance allows faculty to understand practice in more meaningful ways and

empowers faculty "in a way that deepens one's feel for the situation and makes one's practice stronger" (p. 10).

The second strategy focuses on the human condition of teachers and learners. Palmer argues that to understand their students, faculty must first understand themselves. Through this reflective practice, faculty can create greater coherence between their intended actions and the ways in which students experience these actions.

Palmer's third strategy to promote conversation is to identify metaphors and images of what we are doing when we teach. Conceptualizing practice in visual terms sheds insight on taken-for-granted ways of thinking about practice and allow faculty to explore reasons why they think about practice in this way.

The final strategy is autobiographical reflection on the great teachers who influenced faculty to pursue academic life. Through conversation about the origins of their practice, faculty gain deeper perspectives about teaching practices and their senses of identity as teachers.

The Framework: Lessons Learned from Staff Development

Such notions that view faculty as reflective practitioners and faculty development as conversation and community carry with them certain implications for framing practice. Reflection and discourse can not occur if faculty do not come together. Moreover, simply forming reflection groups and arranging a time for them to meet is just a beginning. Participants in reflective conversation need to spend time evolving ground rules (Brookfield, 1995; Parker, 1993); they need to find ways of talking about their experiences with colleagues; and they need opportunities for demonstration, practice, feedback, and coaching.

While often acknowledged in official institutional rhetoric these conditions are rarely planned for or supported in traditional conceptions of faculty development (e.g. traditional workshops, newsletters, teaching tips). These themes are, however, well documented in the literature on staff development for instructors in elementary and secondary schools. As such, this body of literature provides insights into structuring learning experiences for adult learners. A number of reviews have synthesized literature about the content, structure, and process of effective staff development efforts. A brief summary is presented here.

Content

Content of development efforts has a clear effect on results. The content of effective staff development efforts is based and paced according to participant needs (Butler, 1989; Sparks, 1983). Content is research-based, concrete, and skill-specific rather than solely conceptual. Evidence suggests that programs that focus on teacher behaviors that affect student learning improvement are more effective than those that address personal professional development (Butler, 1989).

Structure

One of the factors that contributes to effective staff development is clear, specific goals and objectives established with the active involvement of participants (Butler, 1989; Sparks, 1983). Participant involvement ensures that the content of the program evolves according to the needs, level of awareness, mastery, and concerns of participants (Butler, 1989). Research also has implications for the nature of the goals and objectives. Programs that focused on teaching and learning had greater impact when they focused on changing those teaching behaviors that affected student performance and when they expected participants to practice and apply new behaviors in their own classrooms (Butler, 1989).

This research suggests that goals should target participant behaviors and should require practice in natural settings.

Research clearly indicates that single session workshops or staff development activities have little effect on staff behavior (Butler, 1989; Joyce & Showers, 1980, 1982, 1988; Licklider, 1986; Sparks, 1983). A more effective structure incorporates multiple sessions over an extended period of time. Such a schedule provides the opportunity to present new learning in small pieces; to try out new skills and adapt them to individual settings, as well as adapt settings to support new skills; and to address different concerns of participants that occur at various stages of the change process (Butler, 1989; Joyce & Showers, 1980, 1982, 1988; Sparks, 1983). Effective programs enhance learning opportunities that take place in regular sessions with assignments to be completed between regular sessions (Butler, 1989). The assignments provide participants opportunities to practice, reflect, discuss, and receive feedback about new strategies.

Key to successful staff development programs is the opportunity for participants to practice and experiment with new strategies in non-threatening environments. Creating an environment that encourages experimentation is facilitated by scheduling activities at convenient times and at convenient locations, and providing constructive, non-threatening feedback (Butler, 1989; Tiberius & Billson, 1991).

Administrative support is also an important determinant of successful staff development (Butler, 1989; Licklider, 1986; Sparks, 1983). Teachers in schools where principals support change, provide incentives for change, reinforce change, and include change in school policies improve more than participants in schools with less supportive administration.

Process

Process is another key element of faculty development efforts. Effective staff

development consists of multiple components and a variety of instructional strategies (Butler,

1989; Joyce & Showers, 1980, 1982, 1988; Licklider, 1986; Sparks, 1983). The basic

components include diagnosing teaching skills and building awareness of the need for

change, providing the theory base for new approaches and then demonstrating or modeling

application, discussing the application of new teaching skills, practicing and receiving

feedback, and coaching. The purpose of diagnosing is twofold: assessing participants' needs

relative to new knowledge or skills and increasing awareness of the need for change (Butler,

1989; Sparks, 1983). The theory base undergirding new approaches and demonstrating or

modeling application is provided to clarify the foundation of the new approach and to make

its associated behaviors explicit (Butler, 1989; Joyce & Showers, 1980, 1982, 1988;

Licklider, 1986; Sparks, 1983).

The most effective staff development opportunities present content through a variety

of instructional strategies (Butler, 1989). For example, new skills may be demonstrated with

live models, videotapes, detailed narrative descriptions, and experiential activities (Licklider,

1986; Sparks, 1983). Micro teaching and role playing are two effective strategies for

providing opportunities for practice and feedback (Sparks, 1983).

Research also demonstrates the importance of incorporating opportunities for

participants to learn from each other (Butler, 1989). Two effective learning strategies are

base groups or study teams and peer coaching. Base groups or study teams consist of three to

six members and provide each member time to contribute to discussions. Sparks (1983)

noted that a camaraderie develops among smaller groups who meet regularly to improve their

teaching. Base groups/study teams can be used during a workshop to facilitate discussion.

They may also be used between regular sessions to provide additional opportunities for

discussion and reflection.

Peer coaching is defined specifically as the development of teacher teams who

regularly observe one anothers' classrooms to provide companionship, give technical

feedback, analyze the application of new skills and the adaptation of the skills to students,

and to provide personal facilitation (Joyce & Showers, 1982). Peer coaching was found to

affect the transfer of new skills in a variety of ways. Visitations promoted practice and

accountability. Teachers received more specific feedback to shape their applications of new

approaches. Teachers also exhibited greater awareness, understanding, and retention of

knowledge and skills. Finally, peer coaching pairs developed mutual support and

companionship to foster a desire for continued development (Licklider, 1986).

An Interactive Model of Faculty Development

These lessons from adult education and effective staff development provide the

foundation and framework for the interactive model for revisioned higher education faculty

development depicted in Figure 1 and described in the following sections.

Faculty as adult learners

Transformative and self-directed learning are theoretical underpinnings of the

interactive model. Mezirow's discussion of transformative learning applies to faculty just as

much as it does other adult learners. As Cranton (1994) points out, "faculty have a

psychological perspective on themselves as educators; they work within the norms of their

organization as well as social and cultural norms; and they have an epistemic or knowledge-

based perspective on what effective teaching is" (p. 731). Any of these perspectives may

have what Mezirow calls premise distortions. Changes in practice occur as a result of changed assumptions. Such transformations occur through the process of becoming aware of one's assumptions and examining them through critical self-reflection. This reflection occurs best through discourse with others and with the support of others.

Acknowledging the preference for self-directedness among adult learners, the model includes provisions to promote and take advantage of participants' predispositions for all aspects of self-directedness: thinking and acting independently, willingness and capacity to conduct their own education; decision making about goals, strategies, and evaluation of their own development; and pursuit of learning in participants' own natural settings.

Such transformative and self-directed learning is not instantaneous. Integrating new practices can be difficult. Lack of institutional support, student resistance, and competing demands for faculty time all reduce the effectiveness of new implementation efforts and highlight the need for ongoing support and supervision.

At the heart of the model is the aim of immersing faculty in educational environments to build strong, on-going support groups to sustain long lasting change. Activities are designed to give faculty the opportunity to experiment with new strategies, reflect on their experiences as learners and the implications of this learning for their practice, and encourage continued discussions with colleagues. The following sections describe the framework to support such transformative and self-directed learning.

Large group learning opportunities

Structure

Schedule. Because adult learners need time to identify, challenge, and modify their beliefs and assumptions as well as their behaviors, the model incorporates regular sessions

over an extended period of time to provide participants ample opportunity to engage in the

processes of both cognitive and behavior changes.

Participants roles. Because adults have a predisposition for self-directedness,

successful faculty development involves participants in the planning and implementation of

the program. In addition to learning, participants determine the goals and objectives of the

program, share resources with each other, and co-facilitate presentation of the program's

content.

Goals and objectives. The most effective development activities are the result of

faculty interest in their own professional development, specifically, changes in behavior

relative to some ultimate goal. Recall, for example, that programs that focus on improving

teaching target instructional behaviors that affect student performance. Programs designed to

improve scholarship might target behaviors that affect successful grant writing. Programs

designed to improve service might target behaviors that affect committee effectiveness.

Programs designed to examine and change curriculum must target the connections with better

preparation of students for productive citizenry in the 21st century.

Increasing learner control of goals and objectives enhances the learning environment.

Goals and objectives that expect participants to change their behaviors and apply new

behaviors in natural settings give participants immediate experiences to discuss and reflect

upon, thus intensifying commitment to professional development.

Environment. Changing practice is difficult work. A crucial part of this process is

the opportunity for ongoing critical reflection of practice and opportunity for experimentation

with new behaviors in a context that is supportive and non-judgmental (Brookfield, 1995;

Parker, 1993). Faculty need to be comfortable trying unfamiliar techniques, talking honestly

with each other about their successes in the classroom as well as their defeats, and openly seeking suggestions. The willingness to be open and genuine can occur only in trusting and collaborative environments. In such environments faculty are invited to explore ideas without ever feeling that they are being told how they should practice their craft.

Educational developer. Both adult learning theory and staff development research describe more complex roles of the educational developer in effective faculty development programs. In addition to being an "expert" in the target area, educational developers must help participants become self-directed learners. Cranton (1994) provides a number of recommendations to encourage participant control: (a) withdrawing directiveness gradually over several meetings; (b) asking and expecting faculty to make more and larger decisions over time; (c) using group work and other interactive techniques rather than lecture; (d) encouraging faculty to consult each other and form networks; (e) asking for, using, and relying on faculty members' experiences with teaching; and (f) stating the role of an instructional developer and the expectations of faculty openly and explicitly. In summary, the role of the educational developer moves from expert to facilitator to participant as participants assume greater responsibility for the program.

Administrative support. Administrative support and leadership are critical to efforts designed to invite conversation and community. Presidents and provosts, deans and department chairs can have a powerful influence over the success of faculty development efforts by their support or lack of it. Two types of support are described in the literature. First is support for participation in development programs. This includes measures to facilitate participation such as providing opportunities, encouragement, incentives, release time, and financial support. Second is support for taking risks such as allowing voluntary

participation and keeping participation and performance independent of formal faculty review processes.

Content

The interactive model is driven by the knowledge of faculty participants, recognizing their prior knowledge and experiences. Beginning where faculty are, programs must provide activities that help faculty construct more powerful ideas and deeper understandings. To this end, faculty must participate as learners in settings that encourage individual and social construction of new knowledge. Over time this allows faculty to make explicit their beliefs and assumptions about their work. They then may confront any resultant cognition or cognitive dissonance in a safe and productive way. As faculty modify their understanding of one topic, questions are raised about related topics. In this way, participants determine the order in which topics are addressed and the content of the program.

Process

The process of educator behavior change involves (a) identifying and articulating beliefs and assumptions about the targeted area of development; (b) identifying problematic situations; (c) describing behaviors intended to resolve problematic situations; and (d) developing a rationale that links beliefs to new, more effective behaviors (Rando & Menges, 1991).

These steps are consistent with the first three phases identified in effective staff development research (i.e., (a) diagnosing and building awareness for the need for change; (b) providing the theory, demonstrating, and modeling more effective strategies; and (c) discussing application). The remaining steps identified in the staff development research (practicing and receiving feedback and coaching) ensure that the modified beliefs and

assumptions get translated into actual behavioral change. Because coaching takes place in the natural setting and not in regular sessions, it is treated in the model as an activity to extend learning rather than as part of the large group session.

Multiple instructional strategies are used in effective programs. Adult learning theory suggests maximizing opportunities for discussion (e.g., small and large group discussion), again allowing participants to confront their deeply held beliefs and assumptions. Staff development research supports the use of discussions and also suggests that experiential activities are useful in diagnosing and building awareness, challenging existing beliefs and assumptions, developing a rationale for new behaviors, and shaping new behaviors. Both discussion and experiential learning are emphasized in the model of faculty development.

Expanded learning opportunities

Staff development research suggests that participant development is facilitated with activities between regular sessions. The interactive model proposed here provides for three types of expanded learning opportunities described in research: individual activities, base groups or study teams, and peer coaching.

Individual activities

Because adults have a predisposition for self-direction in all aspects of their learning, individual activities are included to allow participants the opportunity to pursue their own particular interests as well as promote the goals and objectives of large-group sessions. Activities might include, but are not limited to, reading assignments, practice in natural settings, and personal written reflections about their experiences. Such activities help faculty connect new concepts, techniques, and insights to their own contexts.

Base groups/Study teams

Base groups and study teams provide participants the opportunity to discuss in small groups the content and activities experienced in large group sessions. Base groups/study teams also complete assignments such as additional readings and exercises to increase awareness of more effective skills. Finally, small group interaction contributes to establishing a non-threatening environment which promotes growth and development.

Peer coaching

Although peer coaching is typically associated with improving learning and teaching, it is included in the model to enhance new behaviors targeted in any development program. For example, partners may observe each others' classrooms to observe the application of effective questioning techniques. Pairs might also critique each others' grant application cover letters or observe each other managing the agenda of a committee meeting.

The peer coaching process designed to provide companionship, support, and non-evaluative feedback typically includes three stages: a pre-observation discussion, a classroom observation, and a post-observation discussion. During the pre-observation discussion, the learning partners meet to clarify the goals for the observation visit. Through the use of questions such as "What is your objective for this lesson?"or "Why did you choose that?" or "how will you know if students achieve the objective for this class" the observing partner can help the instructor reflect and make explicit the purpose of the lesson, the intended student outcomes, the planned strategies and techniques for the lesson, etc. The instructor may also ask the observer to pay special attention to some special area of concern.

During the classroom observation, the observing partner takes descriptive notes guided by the pre-observation briefing. The observer records information about the classroom experience but does not judge the instruction or the experience.

As soon as possible after the observation visit, the partners meet for a post-observation discussion. During this session the partners discuss what happened during the class. It is important that the observing partner refrain from making any evaluative judgments or offering advice about the observed lesson. Instead, the role of the observer is to facilitate the partner's reflections about the learning experience (e.g., decisions made during class, students' reactions, etc.) Asking questions such as "With what were you particularly pleased? Why?" or "Was there any part of the lesson you would do differently? Why?" provide the opportunity for such reflection to occur.

Use of learning partners provide enhanced collegiality, additional opportunity for critical reflection of practice, and continued dialogue about learning and teaching. Such practices complement other aspects of the model, helping faculty "go further, faster."

Summary

The synthesis of adult learning theory and effective staff development research provides the foundation and framework for building effective development programs for university faculty. As a guide to developing such programs, the model is presented in the form of a checklist in Table 1. The left column lists critical elements of effective programs. The right column can be completed by those responsible for planning new programs to describe how each of the critical elements has been addressed. A sample of a completed table is included in the companion article described earlier.

Final Thoughts

As we approach the next century, calls to reform higher education continue. If we are to respond to these calls some of our "we've-always-done-it-this-way" practices must change. In the end, it is those who work in higher education who must carry the weight of the

effort when it comes to renewal. If we are to equip the practitioners to carry this weight, we must revision faculty development in our colleges and universities.

We can no longer assume faculty will learn their craft on their own, by experience or by watching others. We must provide the need, time, opportunity, and support for higher education faculty to confront their deeply held beliefs and assumptions about what higher education has always been and what professors have always done. We must then challenge each other to change what must be changed. No progress will be made without such confrontation and challenge. We must honor educators' knowledge and experience, believing in the collective wisdom and will of faculties to make change and continuously improve, while we insist on continuous professional development for all educators. We must use the research that informs our professional practice, honoring it as highly as we do the research in our own respective disciplines. Our future is too important to do otherwise.

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Table 1. Checklist of critical elements of the interactive model of faculty development

Theory/Research-Base	Practical Application
FACULTY LEARNERS	
Transformative Learning: changing behavior by changing beliefs and assumptions through critical reflection	
Psychological meaning: how people see themselves personally	
Sociolinguistic meaning: social norms, cultural codes, and language	
Epistemic meaning: what is known and how knowledge is used	
Self-Directedness	
Personal autonomy: preference for thinking and acting independently	
Self-management: willingness & capacity to conduct one's own education	
Learner control: learner decisions re goals, sequence, strategies, evaluation	
Autodidaxy: pursuit of own learning opportunities in the natural setting	
LARGE GROUP LEARNING OPPORTUNITIES	
Structure	
Multiple sessions	
Extended time	
Participants' roles	
Determine agenda	
Share resources	
Co-facilitate	
Goals and Objectives	
Participant behaviors	
Teacher practice	

Table 1. Checklist of critical elements of the interactive model (continued)

Theory/Research-Base	Practical Application
LARGE GROUP LEARNING OPPORTUNITIES	
Structure (continued)	
Non-threatening Environment	
Enhanced social context	
Non-judgmental feedback	
Educational Developer	
Target area expert	
Facilitator	
Participant	
Administrative Support	
Encourage participation	
Promote risk taking	
Content	
Participant Meanings	
Begin where faculty are	
Challenge to deeper understandings	
Effective Target Area Strategies	
Research-based behaviors to meet needs of the organization	
Enhance performance and/or desired outcomes	
Concrete skills and application of learning are focused upon	

Table 1. Checklist of critical elements of interactive model (continued)

Theory/Research-Base	Practical Application
LARGE GROUP LEARNING OPPORTUNITIES	
Process	
Critical components	
Raise awareness of assumptions, challenge basic assumptions	
Theory, demonstration, model	
Discuss application	
Practice and feedback	
Multiple Instructional Strategies	
Discussion	
Experiential learning	
EXPANDED LEARNING OPPORTUNITIES	
Individual Activities	
Reading	
Practice in natural settings	
Reflection and journaling	
Base Groups/Study Teams	
Discussion	
Reflection	
Camaraderie	
Peer Coaching	
Observe in natural setting	
Non-evaluative feedback	
Companionship/conversation with colleagues	
Reflection	

Figure 1. An Interactive Model of Professional Development

Large Group Faculty Learning Opportunities

Faculty Learners

Transformative Learning
- psychological meaning
  (view of personal self)
- sociolinguistic meaning
  (self re cultural norms)
- epistemic meaning
  (knowledge & use of)

Self-directedness
- personal autonomy
  (independence)
- self-management
  (directed own learning)
- learner control
  (development decisions)
- autodidaxy
  (learn in own setting)

Structure
Multiple sessions
Extended over time
Participants
- determine agenda
- share resources
- co-facilitator
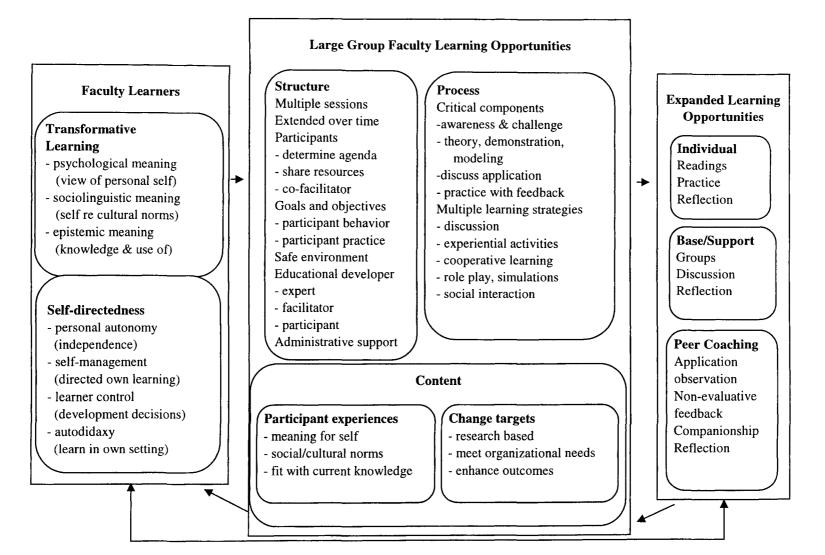Goals and objectives
- participant behavior
- participant practice
Safe environment
Educational developer
- expert
- facilitator
- participant
Administrative support

Process
Critical components
-awareness & challenge
- theory, demonstration,
  modeling
-discuss application
- practice with feedback
Multiple learning strategies
- discussion
- experiential activities
- cooperative learning
- role play, simulations
- social interaction

Content

Participant experiences
- meaning for self
- social/cultural norms
- fit with current knowledge

Change targets
- research based
- meet organizational needs
- enhance outcomes

Expanded Learning Opportunities

Individual
Readings
Practice
Reflection

Base/Support
Groups
Discussion
Reflection

Peer Coaching
Application
observation
Non-evaluative
feedback
Companionship
Reflection

SUPPORTING FACULTY DEVELOPMENT
IN AN ERA OF CHANGE

A paper published in *To Improve the Academy*[1]

Carol Fulton and Barbara Licklider

A paradigm shift in college teaching is underway in higher education (Barr & Tagg, 1995; Campbell & Smith, 1997). Recognizing that old ways that no longer work must yield to change, colleges and universities are gradually replacing the old "telling" paradigm with new "student-centered" approaches to instruction.

These new approaches have significantly raised expectations for student achievement and improved institutional quality – areas long deemed inadequate by industry, government leaders, and the public (Association of American Colleges, 1985; National Science Foundation, 1996; Study Group on the Condition of Excellence in American Higher Education, 1984). Realizing these gains, however, depends ultimately on faculty learning this new vision of practice, a vision that is significantly different from the old vision which faculty experienced as students and which subsequently dominates their practice. Sadly, despite some advances, few opportunities and structures currently exist to support such faculty development.

Seen in this light faculty development is the linchpin to student development. Significant improvements in the quality of higher education hinges on considerable investment in faculty - but not just more of what we've always done – a different kind of faculty development is needed. Just as the complex outcomes now desired for students (e.g.,

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critical thinking, problem solving, the ability to see from diverse perspectives) cannot be

taught directly via the telling paradigm, so too, the know-how to effect these outcomes

cannot simply be "given" to faculty by means of traditional faculty development practices

(e.g., newsletters, one-shot workshops). Instead, new structures are needed that provide

opportunities for faculty to critically reflect on their practice and to fashion new

understandings about learning and teaching.

Project LEA/RN (Learning Enhancement Action/Resource Network) was designed to

begin to address these concerns. Based on a model consistent with current views of practice

and research, Project LEA/RN was created to improve teaching and learning in the College

of Engineering at a land grant institution in the Midwest. This article describes the

implementation of Project LEA/RN. The discussion unfolds in three sections. The first

section describes the theoretical roots that form the basis for this work. The second section

details the implementation of the model in Project LEA/RN. The article concludes with

implications of this work for widespread change of undergraduate education.

Project Underpinnings

The nature of learning

Project LEA/RN embraces an active view of learning. This perspective, grounded in

two decades of research in cognitive psychology, has changed what we know about learning

and learners. (Brookfield, 1988; Leinhardt, 1992; Mezirow, 1991; Svinicki, 1991; von

Glaserfeld, 1993). From this perspective:

Learners are not passive recipients of knowledge, they actively construct, modify, or

enrich their understandings. "Learning is something that the learner does, not something that

is done to a learner (Johnson, Johnson, & Smith, 1991, p. 1:7). This perspective, which emphasizes the active participation of learners in constructing their own knowledge, stands in sharp contrast to models that see the learner as the receiver of knowledge from the instructor or curriculum.

Learners have prior knowledge which affects how they perceive and understand the world. Learning theorists have documented the critical role that prior knowledge plays in learners construction of new understandings. Who they are, what they do, where they have been, and what they expect, all affect how students construct meaning and interpret new concepts.

Reflection is crucial to learning. Students' prior perspectives may contain gaps or flaws. It is through the process of critical reflection that learners become aware of gaps, challenge underlying assumptions, and potentially reconstruct their understandings.

Learning is social and interactive. New views emphasize the social nature of learning. Not only do individuals actively construct knowledge, but so too, do groups to which individuals belong. These shared definitions allow members to work towards group goals. These processes of individual and social construction of knowledge occur simultaneously and are interactive in nature.

Implications for teaching

This new view of learning significantly changes what faculty must do to enable learning. Based on the nature of learning, teaching should emphasize:

Processes that allow students to construct, transform, and extend their knowledge. Learners act on information to make it meaningful by creating connections, discovering

relationships, formulating and reformulating patterns. Consequently, students need to be actively engaged, not in the memorization of facts, but in representing their ideas, giving explanations, challenging and defending solutions, and exploring further implications. To enable students to take these effective actions, faculty now must design tasks, model problem-solving actions, provide feedback on performance, challenge prior beliefs, and manage and focus discussion as needed.

Content that allows students to construct, transform, and extend their knowledge. Learning is the continual reworking and refinement of ideas. Authentic tasks, grounded in real-world experiences known to students enables them to build on prior knowledge. Activities which incorporate the use of new ideas in a wide variety of contexts develops higher level thinking and enables transfer to new situations. As facilitators of students' learning, faculty raise questions that push understandings to deeper levels, explore commonsense misconceptions with the goal of developing deeper insights, and help students bridge between existing knowledge and new situations.

Structures that allows students to construct, transform, and extend their knowledge. Learning occurs best through communication and cooperation with others. To this end activities are frequently structured in pairs and small groups in addition to individual activities and whole group discussion. Drawing on prior knowledge to solve real-world problems while working with others provides a natural bridge for critical self-reflection of ideas and consequent cognitive reorganization. No longer sole judge and authority of knowledge, faculty now are co-collaborators in the social construction of knowledge.

Considerations for faculty development

New visions of learning and teaching and new views of professional development go hand in hand. Drawing on this link, the following ideas served to guide Project LEA/RN:

Teaching should be grounded in students' experience of learning. Many traditional faculty development efforts provide tips and strategies faculty may use without paying sufficient attention to the underlying assumptions upon which practice is based (Brookfield, 1995; Cranton, 1994). Such efforts result in little if any change. Project LEA/RN was based on the assumption that the key to improving instruction lies in understanding the learning process itself. As faculty grow in their understanding of their students' experience of learning, they are better able to teach responsively.

Faculty are learners. What is good for students is good for faculty. Faculty like their students learn by reading, experiencing, reflecting, and collaborating with others. New insights cannot simply be given to them. Rather, faculty must engage in activities that cause them to reflect on what they do and why they do it. Such critical reflection about practice leads potentially to the transformation of previously held beliefs.

Acknowledging the preference for self-directedness of learners (Candy, 1991; Knowles, 1984), Project LEA/RN is guided by three additional principles: first, faculty want to be effective teachers; second, faculty will devote time and effort to improve the effectiveness of their teaching; and finally, given the opportunity and support, faculty will make rapid progress in enhancing their teaching effectiveness.

Content, processes, and structures should support faculty learning. New visions of professional development suggest that the practices needed to support faculty learning are analogous to those needed to support student learning. Such practices engage faculty as learners and participants in creating new understandings about learners, curriculum, and pedagogy, provide authentic opportunities to learn by connecting activities to the concrete tasks of teaching, and are carried out collaboratively, drawing on participants experience to solve practical problems and produce new knowledge. Furthermore, such practices make faculty development ongoing, allow sufficient time for experimentation and reflection, and are supported by modeling, collective feedback, and coaching.

At the heart of Project LEA/RN was the aim of immersing faculty in educational environments to build strong, on-going support groups among faculty to sustain long lasting change. Activities were designed to give faculty the opportunity to experiment with new strategies, provide feedback on revised practice, and encourage continued discussions about teaching and learning.

Implementation

The model upon which Project LEA/RN is built is depicted in Figure 1. The development of the model is described elsewhere (Licklider, Schnelker, & Fulton, in press). This section describes the implementation of the model in Project LEA/RN. While described here under separate headings (structure, content, and process) for the purpose of illustrating the model, these elements in practice are interwoven as will be apparent throughout the discussion.

Structure

The main goals of Project LEA/RN were two-fold: first, to encourage faculty to approach instruction purposefully and second, to promote attitudes favorable towards student-centered approaches to learning.

Participation in the project is voluntary. Feedback associated with participation in the program is independent of the formal faculty review process.

Participants play an active role in the planning and direction of the program. In addition, faculty are encouraged to co-facilitate sessions and serve as resources for one another.

The role of the instructional developer is to facilitate faculty learning. The developer wears many hats during this process (e.g., designing activities, challenging faculty assumptions, lending expertise, etc.) with the ultimate goal of shifting expertise, control and decision-making to the faculty. While not dictating what faculty should do in their classrooms, Project staff operate from a student-centered instructional mode when facilitating sessions.

Faculty meet in two-hour large group sessions every two weeks throughout the academic year. This format provides opportunity for demonstration, stimulates ongoing discussion about teaching and learning, and fosters an atmosphere of trust that comes from working together over time. Such an environment provides a safe, stimulating context in which to challenge assumptions, experiment with new behaviors, receive feedback on revised practices, and share classroom experiences (both victories and struggles) with colleagues.

Between bi-weekly large group meetings faculty participate in expanded learning opportunities. In base groups of three to four, faculty read and discuss articles related to teaching and learning, discuss issues and concerns, and help each other plan to implement strategies learned in large group sessions. When comfortable, faculty pair as learning partners, observing each others' classes on a regular basis, participating in pre and post observation conferences, and providing support and non-evaluative feedback during the learning process.

Content

The content of Project LEA/RN connects to and stems from participants actual classroom concerns. These concerns have evolved into a core set of four thrusts (engagement strategies, questioning strategies, lesson planning, and assessment) around which the bi-weekly meetings are organized throughout the course of the academic year. Early sessions introduce participants to active learning strategies such as Turn to Your Partner (TTYP), Problem Solving Pairs, and Student Base Groups (Johnson, Johnson, & Smith, 1991). Faculty also study effective group functioning.

As professors work to incorporate these strategies into their courses, they discover that the "quality" of the questions they ask play a significant role in promoting (or failing to promote) interaction among students. This leads naturally to the second thrust. Through a number of activities faculty examine the relationship between the types of questions they ask and the type of learning required by students. Faculty work on developing questions that provide higher level thinking (See Bloom, in Gronlund, 1985) and good classroom

interaction. During sessions, project staff model a number of strategies including wait time and inductive strategies.

The key focus in the third thrust is lesson planning. Faculty work to develop objectives, activities, and lesson sequences that are conducive to student-centered learning. The final thrust introduces faculty to alternative classroom assessment techniques such as the Minute Paper and the Muddiest Point (Angelo & Cross, 1993). Each of the thrusts are designed and presented to: establish a knowledge base in learning theory, develop an array of progressively more effective teaching strategies, and foster ongoing discussion about teaching and learning.

While these four thrusts reflect the core content, LEA/RN is also guided by the philosophy of "begin where faculty are" and "go where faculty want to go". This means that the four thrusts are presented "roughly" as described, paced to meet participant needs. In addition, the developer has the added responsibility of balancing the four thrusts with the interests of faculty, supplementing them as needed with additional materials or topics.

Process

The earlier discussion about learning suggests that several conditions must be met for learning to occur: faculty must be given the opportunity to make their basic assumptions explicit. These basic assumptions must be challenged. If they are not, no learning will occur. This challenge provides the opportunity for critical reflection and potential reorganization of previously held beliefs about teaching and learning. This section describes the first three sessions with faculty to illustrate how this transformative process unfolds in Project LEA/RN.

First Session

Initial sessions provided faculty with the opportunity to identify their existing conceptions of teaching and learning and served to introduce active learning. The project begins with an activity called "entrance exam." Faculty are asked to think about and to discuss with the larger group, different approaches that instructors can use to structure learning experiences for students. Staff then facilitate a discussion of three basic approaches: competitive, individualistic, and cooperative (Johnson, Johnson, & Smith, 1991).

Faculty are then afforded the opportunity to experience these structures. In the role of "professor," the facilitator gives the faculty three problems to solve, each of which is introduced using a different instructional approach (i.e., the first problem is solved in a competitive scenario; the second, individualistic; and the third, cooperative). After each problem, faculty are asked to write down any reflections on their experience as "students." At the completion of the exercise, faculty and staff engage in a discussion about these reflections.

Staff then introduce TTYP (turn to your partner), a simple interactive strategy that faculty could use to promote more involvement in class. After introducing the strategy, faculty are asked to turn to a partner and reflect on this question: "What are the implications of the three types of structuring learning for your students". This was followed by whole group discussion.

The session ends with an assignment. Prior to the next LEA/RN meeting, faculty are asked to use TTYP in class at least twice and to keep an informal log of results. They are also asked to read an article that talked about the skills needed by tomorrow's engineers.

Second Session

The session began with a "go-round." Going around the room, each participant was asked to share one reflection from the reading. This go-round triggers a discussion on the aims of teaching. In particular, this discussion centers on the idea that the espoused goals of faculty frequently do not correspond with actual classroom practice (see Argyris & Schon, in Cranton, 1994). The espoused goals of faculty call for higher-order thinking, including such skills as critical thinking, creativity, and problem-solving. Yet traditional classroom practice typically require of students little more than memory and recall.

This discussion of the consequences of practice continues into the second activity in which in which faculty share their initial experiences with TTYP. Working with a partner, faculty are asked to answer these three questions: 1) How did students respond to the TTYP; 2) What difficulties, if any, arose as you tried to use it? and 3) What help, if any, do you need to make this strategy more effective or easier for you to use? Pairs of faculty share their reflections with the large group for the purpose of feedback and critique.

The activities up to this point were designed to suggest that instruction ought to be approached as supporting student learning. Such an approach requires a thorough understanding of the learning process. The next phase of the program, therefore, focuses on student learning.

Beginning in this session and continuing into the third session, faculty watch a videotape that documents current findings from cognitive research about how students learn. At the same time, faculty are introduced to another interactive strategy, notetaking pairs, which they use while viewing the video.

The session ends with a final go-round and an assignment. In the go-round, faculty share one significant thought from today's session. In preparation for the next session, they are again asked to try TTYP in class and to begin a record of the questions they ask in class.

Third Session

The third session unfolds in the same manner just described. During the opening go-round faculty are given the opportunity to share their classroom experiences in using interactive strategies and receive feedback. Participants then finish watching the video on student learning, again working first in pairs, followed by a large group discussion.

Two new activities are introduced during the third session. First, faculty are introduced to another interactive strategy, paired reading, and asked to use it to read and discuss an article about lecturing. Second, faculty are given planning time to work on their own class. Using their notes for an upcoming class, faculty work first individually and then with a partner to generate questions that they think would work well to stimulate classroom discussion. At the end of the session, faculty are asked summarize in their reflection logs and to share in a large group go-round the understandings of teaching and learning that they developed from the sessions thus far.

This description of the initial LEA/RN sessions illustrate some of the practices needed to support faculty learning. Activities engage faculty in the concrete tasks of teaching in ways that illuminate the process of learning. Experiences followed by group discussion build natural bridges for critical self-reflection.

LEA/RN sessions in which faculty are introduced to a strategy, experience the strategy followed by practice with the strategy in the classroom afford faculty the opportunity

to reflect on the experience of learning and to relate their own learning experiences to the experiences of students in their classroom. Activities which are structured collaboratively engage faculty in the collective solving of problems and help to produce new understandings about learners, content, and pedagogy.

Implications for Widespread Change

Project LEA/RN began in 1994 when 12 faculty members from the Department of Mechanical Engineering linked with a faculty member in the College of Education to better understand the learning and teaching endeavor. As a result of the success of this group, excitement about student-centered learning spread and more faculty asked to be involved. In 1995 two new LEA/RN groups were established. Now in its fourth year, Project LEA/RN has grown from 12 faculty to over 120 faculty and has expanded from the College of Engineering to include faculty from nearly all colleges across campus.

While research efforts are now underway to formally determine the impact on faculty practice and subsequently on student outcomes, preliminary evidence gathered from group discussions, logs, and informal conversations suggests that the LEA/RN model is an effective vehicle to support faculty in ways called forth by the paradigm shift. Faculty in the project have adopted new student-centered approaches in their classrooms. Furthermore, many have begun to examine and change the underlying assumptions about learning that guide their practice. This evidence suggests that faculty development of this nature can be effective in bringing about change.

Yet it is within this picture of success that one also catches glimpses of the challenges posed in bringing about widespread change. The picture painted here is not one of

unmitigated success or uniform change. Not all participants make significant changes in practice and a few faculty drop out of the program for one reason or another. Future research may help us understand these findings and shed light on ways the project could be improved to have a broader impact.

While successful in bringing about change, the LEA/RN model is also time, labor, and cost intensive. Sponsored by the College of Engineering and the University's Center for Teaching Excellence, project participants benefit from opportunities and resources not typically provided in faculty development efforts. This suggests that if new visions of practice are to become a reality, we need to rethink our traditional conceptions. This is especially true when thinking about the scope of changes desired. The years of growth have been both blessing and bane, with enthusiasm of faculty and departments colliding with limitations of time and staff, accentuating the need for ongoing support to sustain such changes.

Clearly time and cost are challenges. Yet the picture would be incomplete without noting the unanticipated and unexpected joys involved in working with faculty. Over the past four years, time and time again, the guiding principles that undergird the project have been brought to life in the lived experience. Faculty do want to be effective teachers and will devote time and effort to improve the effectiveness of their teaching. They have found time when there was no time to make changes happen. They have demonstrated that given the opportunity they will make progress in enhancing their teaching effectiveness.

There are undoubtedly many reasons for the success of Project LEA/RN. However one stands out as central. Project LEA/RN invites faculty to examine their own practices and to consider learning as the foundation upon which to frame practice. This opportunity to

pause and consider learning moves teaching beyond technique. Whereas traditional development practices offer faculty tips and strategies, the opportunity to critically reflect on practice and develop their own epistemic knowledge engages faculty in the scholarship of teaching. In addition, collegial discussions about learning and the collective solving of problems of practice contribute to the development of a collective identity ending the isolation so characteristic of faculty life.

Final Thoughts

The paradigm shift underway in higher education calls for a fundamental change in college instruction. Educational critics and reformers alike view such radical change as necessary for preparing citizens for the 21st century.

Yet these visions and expectations for change cannot rest on the shoulders of individual faculty conducting new practices in their classrooms. Pedagogical practices and instructor roles are ultimately embedded in institutional cultures. New practices embedded in contexts that are at odds with these new visions are unlikely to take root and grow.

Recognizing the embeddedness among institutional culture, faculty development, and student development is critical to nurturing new visions. Creating a culture where teaching is valued in higher education will require both new approaches to professional development and new structures to support these approaches. This investment in faculty, in turn, will be reaped in gains in student development. Seen from this perspective, faculty development is not a frill, but a necessity.

As faculty focus on students experiences, drawing on their collective wisdom to solve the problems of practice, new knowledge and understandings are forged. Such activities

serve to connect professional learning to collegial learning thus creating a collective identity

among faculty. It is in this broader identity, this collective strength, wherein the hope of

change lies. Working together with a shared sense of purpose, faculty can make a dent in the

lives of students, helping them to shape the future of the 21st century.

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SEASONS OF CHANGE IN HELPING FACULTY SHIFT TO LEARNING-CENTERED APPROACHES

A paper to be submitted to *The Journal of Scholarship of Teaching and Learning*

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Introduction

Increasingly faculty developers are being asked to help faculty move from a teaching-centered paradigm to a learning-centered paradigm. Project LEA/RN (Learning Enhancement Action/Resource Network) is one productive approach to this challenge.

The ability to learn new skills and concepts will be a valuable skill in the 21st century, as the learning revolution and the restructuring of the workplace continue to redefine the relevance of traditional skills and knowledge. Increasingly there are demands from employers, politicians, and others for young people to have more than technical knowledge. They also want students to develop skills such as working in teams; collecting, analyzing, and organizing information; communicating ideas and information; planning and organizing activities, and using mathematical ideas and using technology (Gardiner, 1994; NSF, 1996).

Meanwhile the nineties witnessed the emergence of a paradigm shift in college classrooms as emphasis was placed on moving from a passive to an active learning environment (Barr & Tagg, 1995; Johnson, Johnson, & Smith, 1991). More and more voices promoted the current view in higher education that learning is the key to improving instructional quality (Chickering & Gamson, 1987; Cross, 1996).

Teaching students to learn new material has long been considered an important teaching role. However, teaching students to become effective learners has not. Bringing about this change in scope will require changing the way faculty members approach their role

as instructors and how they conceptualize the role of their students in the learning process. It will require unlearning old habits of practice. Discipline-specific graduate coursework has not prepared faculty for this task. Moreover, most college faculty members teach as they were taught. Many are unaware of alternative classroom practices.

To make lasting change, faculty members need considerable exposure to the major principles and implications of new approaches. In the case of learning-centered development, participants need an opportunity to experience a learning-centered environment. They require illustrative modeling, along with adequate time for classroom practice. In addition, they need structured opportunities to converse and collaborate with peers. Providing these kinds of experiences is the mission of Project LEA/RN (Learning Enhancement Action Resource Network).

This paper describes the background, vision, theoretical framework and implementation of Project LEA/RN. It also provides preliminary evidence as to the effectiveness of such an approach for assisting faculty who wish to shift to a learning-centered view of teaching and learning.

Background

The project began in 1993 when a group of mechanical engineering faculty from the College of Engineering forged a partnership with a professor in the College of Education. The partnership was initiated to transform engineering education at Iowa State University. The engineering professors sought to answer the question of how to better prepare graduates for the workplace. As a result, this group began studying, developing and incorporating active learning techniques that have proven successful in the K-12 educational system. Participants increased their motivation for teaching and changed their teaching behaviors as a

result of participation. Their enthusiasm was contagious. After one year of self-study the group approached the university administration with a proposal to test their hypotheses: 1) faculty want to be effective teachers; 2) faculty will devote time and energy to improve the effectiveness of their teaching; and 3) given the proper opportunity and support they will make rapid progress. The proposal was accepted and the financial assistance necessary to launch the collaborative effort now know as Project LEA/RN was secured. As the project has grown, teaching faculty and staff from all colleges of Iowa State University and from other institutions of higher education have joined the effort to improve educational experiences for their students.

Vision

We envision LEA/RN as a program that pursues activities that encourage faculty collaboration within and across disciplines. We also emphasize activities that encourage reflection and collaboration specifically in teaching and learning.

Project LEA/RN recognizes that the practices needed to support faculty learning are analogous to those needed to support learning. Such practices engage faculty as learners and participants in creating new understandings about learners, curriculum, and pedagogy; provide authentic opportunities to learn by connecting activities to the concrete tasks of teaching; and are carried out collaboratively, drawing on participant's experiences to solve practical problems and generate new insights.

Project LEA/RN provides an ongoing learning experience and the needed mentoring and support mechanism to help faculty through the almost certain early struggles inherent in the adoption of new ways of teaching. With this level of deployment it is more likely that faculty will continue to be innovative practitioners in teaching and course development.

Project LEA/RN recognizes that instructors and other higher education educators are highly qualified in specific curricular areas, but few have had formal training as teachers. We assume that faculty participants are familiar with the traditional teaching centered paradigm. LEA/RN is structured to allow faculty to explore the contrasts between the traditional teacher-centered paradigm and a learner-centered paradigm. Participants in the program develop learner-centered outcomes and are introduced to a course planning process structured around the learning paradigm.

At the heart of Project LEA/RN is the aim to immerse faculty in educational environments to build strong, ongoing support groups among faculty to sustain long lasting change. Against this backdrop, activities are designed to:

- Nurture the identity of the teacher, enhancing their self-worth, pride of accomplishment, and enthusiasm.

- Encourage teachers to be learners and to re-examine continually beliefs about teaching.

- Expand participants' ability to evaluate techniques to determine suitability for use in their own classroom.

- Expand participants' ability to develop assessments that promote learning.

- Create a context for building community and interacting with colleagues about learning and teaching.

Project LEA/RN seeks to encourage faculty to approach instruction purposefully and to promote attitudes favorable towards student-centered approaches to learning.

Theoretical Foundation and Framework

Our approach to faculty development is informed by theory from adult education and staff development. In addition, Project LEA/RN models constructivist learning principles.

Adult education

Two key ideas in adult education are reflective practice and transformative learning.

Reflective Practice

Schon (1983) developed the idea of reflective practice. Central to reflective practice is the idea that professionals (including faculty and faculty developers) continually examine what they do and the contexts in which they do it. For example, following a class, a reflective teacher mentally replays the decisions he/she made during a lesson and evaluates which responses and reactions on the part of students served to influence these decisions. This reflective process helps teachers imagine alternative structures and processes and revise their teaching accordingly.

Transformative learning

Mezirow's (1991) theory of transformative learning has become a pillar of adult education. In this view, learning is the process of becoming aware of one's beliefs and assumptions and revising them based on critical self-reflection. Adult learners have beliefs, assumptions, values, and prior knowledge that determine how they make sense of the world and their experiences. These assumptions may be challenged by people, different contexts, crises, and new experiences. Such challenges present the opportunity from modification or revision of previously held beliefs. Changes in behavior and practice follow as a result of a changed perspective.

Effective staff development

The literature on staff development provides another source of insight pertaining to structuring learning experiences for adult learners. A few highlights are summarized here.

Structure

Research clearly indicates that single session workshops do not give teachers the time, activities or content necessary for increasing their knowledge (Butler, 1989; Joyce & Showers, 1980, 1982, 1988; Licklider, 1986). A more effective structure incorporates multiple sessions over an extended period of time. Such a schedule provides the opportunity to present new learning in small pieces and to try out new skills while adapting them to individual settings.

Another factor that contributes to effective staff development is clear, specific goals and objectives which are established with the active involvement of the participants (Butler, 1989; Sparks, 1983). Participant involvement ensures that the content of the program evolves according to the needs, level of awareness, mastery, and concerns of participants.

Integrating new behaviors into practice can be quite difficult. A greater impact is realized when new learning is integrated with supervision and support. Effective programs are those that provide feedback and coaching and foster discourse with other participants (Joyce & Showers, 1988). Peer coaching and base groups are two effective learning strategies.

Process

The new paradigm of development encourages collegiality among teachers. Collaborative participation has numerous advantages. It allows teachers to discuss concepts and problems that arise during the course of an activity. It allows teachers the opportunity to integrate their new learning with other aspects of their practice. It also helps to contribute to a

shared culture and vision for needed changes in the classroom (Birman, Desimone, Porter, &

Garet, 2000).

Active learning is an important aspect of successful programs (Lieberman, 1996).

Active learning encourages teachers to become engaged in meaningful discussion and

effective planning.

Effective staff development consists of multiple components and a variety of

instructional strategies (Butler, 1989; Joyce & Showers, 1998; Licklider, 1986). The basic

components include diagnosing teaching skills, building the awareness of the need for

change, providing the theory base for new approaches, and then demonstrating or modeling

the application.

Content

Professional development should emphasize the integration of program content and

discipline-specific content. Without contextualizing development activities within teachers'

current understanding of teaching and within their field of study, efforts are unlikely to

enhance teaching effectiveness.

Principles of learning

Project LEA/RN embraces an active view of learning. This perspective emphasizes

the active participation of the learner in the process of understanding the world (Johnson,

Johnson, & Smith, 1991; Simon & Schifter, 1991). Students are not blank slates upon which

knowledge is etched. They construct new understanding using what they already know.

Learners confront their understanding in light of what they experience in new situations. If

existing cognitive structures do not adequately account for new information, their

understandings can change to accommodate new experiences. This cognitive reorganization

is best conducted through communication and cooperation with others.

These insights about learning have implications for teaching. From this perspective,

instruction should be approached as guiding and supporting the knowledge construction of

students. According to this model, students should be actively engaged in representing their

ideas, giving explanations, challenging and defending solutions. To do this, students

participate in authentic tasks which are structured at times individually, often in pairs or

small groups, and sometimes in large group settings (Leinhardt, 1992; Simon & Schifter,

1991). Rather than the traditional emphasis on disseminating knowledge, faculty must now

design tasks, model problem-solving actions and provide feedback on performance (Huba &

Freed, 2000).

By extension, the new paradigm of learning also has practice implications for faculty

developers. If developers expect faculty to teach in student-centered ways they must

recognize that learning is the province of all learners, not just students. Therefore, any faculty

development program will approach faculty as adult learners. Second, time is required for

faculty to confront beliefs about teaching, practice interactive strategies and develop

community. Finally, it is not enough for developers to tell faculty about the new paradigm

expecting faculty to translate this talk into action. It is more effective to have faculty

experience the new paradigm in a way that will lead them to take new actions in the

classroom.

Learning Opportunities

LEA/RN has two distinct learning opportunities: the "foundational" first year

experience and an advanced learning for leadership experience. These experiences have

different emphases. The foundational experience is geared toward first-time participants. It consists of two semesters of participation in a reflective and collaborative group where faculty members confront beliefs about teaching and spend considerable time studying and discussing learning theory and implications for their classroom practice. Faculty participants have the opportunity for extended reflection on their profession. The invitation to describe their own teaching philosophy helps participants' articulate assumptions that ground their methodological choices. At the same time, exposure to alternative conceptions of teaching invariably provides the opportunity for participants to challenge or extend their own pedagogical understanding. In addition, faculty discuss and practice interactive teaching strategies and cooperative learning skills such as effective group structuring and building student accountability into activities.

The advanced learning for leadership experience is structured to meet the needs of ongoing participants. In this stage participants study a topic of their own choosing in depth. Typically, groups identify the need to learn more about assessing student learning. Participants can continue in the project indefinitely as their schedules permit. However, completion of foundational first year is a prerequisite for participation in advanced learning groups.

Participation in the project is strictly voluntary. Over the years recruitment strategies have changed. In order to enlist support during the pilot years of the program, the educational developer made personal presentations for each of the departments in the College of Engineering. As the program became a recognized presence on campus, participants who support the program have become advocates at their own departmental meetings. In addition, intensive introductory workshops have been developed. These are week-long workshops that

introduce participants to learning-centered approaches to teaching and assessment and to structured cooperative learning approaches. Our experience has been that these workshops are sufficient to trigger interest in learning-centered approaches and to shape a process for reflection. However, workshops alone are insufficient to maintain the effort.

To ensure that participants continue the process, follow-up and ongoing technical support is necessary. Therefore, upon completion of a workshop participants are encouraged to join a first-year learning group. Those who do not join an ongoing LEA/RN group often make marginal or no progress in implementing change after the initial excitement of the workshop wears off (Jungst, Licklider, & Wiersema 2003).

This paper describes the activities and impact of the first year experience. This experience lays the foundation for making a shift from a teaching centered to a learning-centered perspective.

Program Implementation

Structure

Faculty meet in two-hour large group sessions every two weeks throughout the academic year. This format provides opportunity for demonstration, stimulates ongoing discussion about teaching and learning, and fosters an atmosphere of trust that comes from working together over time. Such an environment provides a safe, stimulating context in which to challenge assumptions, experiment with new behaviors, receive feedback on revised practices, and share classroom experiences with colleagues.

Between bi-weekly large group meetings faculty are afforded the opportunity to engage in expanded learning opportunities. We have found learning partners to be a useful structure. Before beginning the process instructors receive instruction. When faculty are

comfortable, they enter into long-term learning partner relationships. Partners observe each other's classroom on a regular basis, participate in pre and post-observation conferences, and provide support and feedback during the learning process.

Project LEA/RN holds participants to several expectations. These include:

- Preparation and attendance at meetings;

- Focus on acquiring a deeper understanding of learning to serve as a foundation for teaching;

- Sharing experiences in the area of learning and teaching;

- Collaborating with colleagues;

- Consideration of new ideas, views, and techniques;

- Willingness to serve as resource for other faculty members.

Content

As the program has evolved four content foci have emerged: engagement, questioning, purposeful planning, and assessment. Although we describe these content areas separately, these thrusts are intertwined.

To lay the groundwork for confronting beliefs about teaching participants engage in an activity called "entrance exam." This activity prompts them to articulate their feelings and beliefs about learning and learners. From here, participants explore the assumptions of the traditional and learning-centered paradigms (see Figure 1). This emphasis leads naturally to a discussion of interactive teaching strategies designed to engage students and improve student learning. Facilitators and instructors spend considerable time exploring the links between learning theory and interactive and cooperative learning approaches. They also collaborate on ways to make the classroom a safe space for learning. Other topics include effective group

functioning and creative grouping strategies. The project uses many of the interactive

strategies developed by Johnson, Johnson, and Smith, 1991. Participants also experience

formal cooperative learning strategies.

The next content focus emphasizes questions. The use of interactive strategies

naturally stimulates interest about skills necessary for sustaining a good discussion:

questioning, listening, and responding. Participants experience a number of structured

activities that allow them to examine the relationship between the types of questions they ask

and the type of learning required by students. Feedback provided helps them develop more

effective questions. Bloom's taxonomy is helpful resource (see Bloom, in Gronlund, 1985).

The third area of emphasis is lesson planning and course planning. What is stressed is

purposeful planning for student outcomes. This approach to lesson and course design is a

point of departure for many faculty. The typical approach to planning places the emphasis on

content coverage. To unlearn this habit of practice, faculty members are asked to formulate

specific learning objectives. At the same time, participants are encouraged to identify the key

concepts or enduring understandings that make up the heart of their discipline. These

planning exercises help faculty structure the use of class time with a specific purpose in

mind. Rather than focus on what they will cover, faculty concentrate on what they want

students to learn. A helpful resource for curricular planning using an outcome approach is

Understanding by Design, by Grant Wiggins and Jay McTighe (1998).

Assessment is the fourth area of emphasis. Traditional testing often encourage little

more than rote learning. With this type of learning, students typically master facts that can be

recall during testing situations. However, facts learned this way may be forgotten quickly.

This type of learning which is basically passive may lead to surface learning. This means that

students may have difficulty transferring what they have learned to other circumstances or contexts, thus limiting the value of their learning. By way of contrast, deep learning helps the learner link ideas together with core principles. Alternative assessments that involve the learner in applying their knowledge and linking it to various contexts are believed to promote deep learning. Therefore in order to encourage successful learning, and to support effective learners, participants are introduced to alternative assessment strategies. Examples include the Minute Paper and the Muddiest Point (Angelo & Cross, 1993).

In addition to these major foci, faculty participants are also given a brief introduction to principles from current research on how the brain learns. Additional readings may be introduced when faculty identify topics of interest. All topics are intellectually engaging and build upon the knowledge base of research on learning and teaching. Facilitators are responsible for balancing breadth and depth of content coverage.

Process

LEA/RN practices what it preaches. Leaders model the role of a coach and facilitator. Participants experience every new strategy before trying it in their own classrooms. Each activity is carefully planned with a specific purpose in mind. After experiencing the new learning tool participants are given time and assistance in developing a practical application for the tool in their own classrooms. Facilitators work to build in reflection time. They try to help faculty bridge theory and practice providing multiple opportunities for faculty to operationalize learning theory in ways that are personally meaningful and useful for their practice. Because writing brings clarity to thought, participants are continuously encouraged to write down their reflections about teaching and learning. For the purpose of prompting reflection, we have found the following questions useful: Describe the learning opportunity.

What feelings did you experience during the learning opportunity? What were your thoughts during or about your experience? What are one or two important understandings as a result of your participation? How does your new understanding support or conflict with your previous knowledge and experiences? How can you apply your learning in your discipline?

Facilitators work purposefully to help faculty make transfer from LEA/RN sessions to classroom practice. Changes begin small – perhaps with the introduction of one interactive strategy. It then expands as instructors see the connection with their personal and professional lives. As they work to further their own learning they clarify for themselves how to more fully meet the needs of their students.

Rethinking practice is hard intellectual work. It takes time to build a climate of trust and support for this work to occur. Facilitators strive to create a safe space for open dialogue, honesty, and risk taking.

Impact

To assess the impact and effectiveness of Project LEA/RN we examine faculty feedback looking for themes and patterns (Bogdan & Biklan, 1992; Lincoln & Guba, 1985). The feedback is circulated among members of the LEA/RN team. This process allows us to continually improve the model and program content. The strength of the program comes from listening to the participants and responding to their needs as learners.

Data collected for this paper came from two first-year groups ($N = 32$). Each large group discussion session for each group was taped, transcribed, and analyzed. In these large group discussions, faculty participants describe their learning and the context within which they operate. The interactions during discussion sessions provide valuable insights into how participants understand the concepts and what questions they ask and when they ask them. In

addition, as part of the ongoing evaluation process, participants are asked to write about their learning. Written responses from individuals include journals, structured reflection responses, questionnaires, practice inventories, lesson plans, and pre-and post-observation conversation notes. Respondents are assured that their responses and written reflections will be treated confidentially. Categories are identified as suggested by the data. Our themes are also informed by the literature on teaching/learning and educator development.

By documenting and tracking faculty learning, Project facilitators can assess the program's effectiveness in meeting faculty needs. This formative approach to evaluation has led to a number of practical changes as the program has evolved.

Results of our evaluation indicate that a majority of participants felt that participation in Project LEA/RN renewed their commitment to teaching; enhanced their relationship with colleagues; and strengthened their understanding of learning. The themes that emerged as central to individual learners and group discussions were a testimony to the program's effectiveness in immersing faculty in a positive educator environment. This paper looks at one recurring theme: the changing nature of the teacher's role. It was anticipated that this information would contribute to the project's capacity for motivating and sustaining further change.

Pedagogical Growth in First-Year Program Participants

This section is our interpretation of data related to faculty experiences as a representation of teacher growth in what it means to facilitate learning. The general direction of the shift is from a primary focus of the teacher as subject matter specialist who disseminates knowledge to an expanded role of an educator who helps students grasp the heart of their discipline and learn how to continue their own learning. Consistent with this

conceptualization we present teacher growth as five seasons of change in thinking about the process of educating: challenge, experimentation, intentionality, community, and worthiness.

Season of Challenge

The process of pedagogical transformation begins with a season of awareness and disequilibrium. This point in their experience is where participants identify their assumptions and confront their beliefs about teaching. Facilitators use experiential processes directed toward increasing participants' awareness of teaching and learning dynamics.

Typically teachers come to the initial meetings with their own concerns strongly in mind. Participants typically mention getting good discussion going or student motivation. Typical comments during the first meeting include:

Students don't come prepared.

Students don't read. Sometimes they don't even come to class.

Students only want to know what is going to be on the test.

I do not have time for these things.

How will I cover the material?

These comments serve to open the discussion about paradigms of college teaching. As facilitators and participants confront beliefs about learning through discussion of the changing paradigms, participants come to the awareness that students as well as teachers bring teacher-centered baggage to the classroom. Facilitators point out that while teachers often say they want students to use problem solving, creativity, and independent thinking the instructional practices they use send a different message to students encouraging rote

memorization. Students learn their role as passive recipient through these implicit messages. Faculty members resonate with this experience.

During this season, teachers have not begun to make changes in their classroom. However, they are introduced to learning theory and interactive teaching strategies. Even veteran teachers can find the amount of new knowledge overwhelming. Often, faculty members' initial response to the amount of new learning is to feel inadequate. The disequilibrium felt by teachers when they encounter new theories and ways of teaching can, in some cases, lead to resistance. The majority of participants move past the early confusion after working in the program for a couple months. The ongoing nature of the program gives participants a forum for airing their concerns and frustrations.

Season of Experimentation

In this season, participants become learners again. This is the point in Project LEA/RN when faculty members turn their classroom into a lab and experiment with strategies. In addition, they continue to study learning theory. Typically they have not set learning outcomes for students, or if they have their goals are still somewhat vague. However, at this point faculty participants do begin to articulate principles from learning theory. They reveal in their speech and learning journals that "learning occurs through social interaction," "learning is closely tied to particular situations," and "learning is shaped by prior knowledge."

This is a season of trial and error. If using an interactive teaching strategy went well in class then teachers resolve to try again. Similarly if an interactive teaching strategy does not go well then teachers jump to the conclusion that the strategy will never work for them. The following comments are typical of this season of growth:

The students actually talked.

They [the students] seem to get it better.

They seem more comfortable answering questions.

Not all experiments generate positive responses. Some participants experience frustration. These comments are typical of a less positive experience with interactive teaching strategies:

My students are not note takers. They will never be note takers.

These techniques may be appropriate in other disciplines but they don't fit mine.

One of the strengths of this format is that faculty gain a broader experience of teaching methods. In addition, when experimenting with strategies participants are forced to assume both the role of instructor and student. In this way, they get a feeling for how their students might react in new learning situations. Not surprisingly, therefore, instructors in this stage speak frequently of the need to build a safe environment for student learning.

Season of Intentionality

In this season faculty members speak increasingly about using active learning strategies to engage students with the subject matter and increase intellectual agility. Their view of teaching becomes more complex moving from a model that saw teaching as telling towards a model that sees teaching as creating environments that make learning possible. As one instructor commented, "Students have to think to learn. I have to figure out how to get them to think."

Identifying specific student outcomes becomes more of a priority during this season.

Linked to the identification of outcomes, their lesson planning begins to reflect a planning

process that centers on planning with a definite purpose in mind.

I think I've targeted better what I want them to do. They know what it is.

First and foremost, you have to be clear on your objectives. What are the
things the need to learn today. Then construct activities so that you are going
to get there. I'm not there yet with my course, but I am getting closer.

Participants' confidence related to using new methods increases. If they experiment

with an alternative approach to teaching or assessing and the experiment does not go well

they are less likely to throw in the towel. Instead, they reflect on the activity to determine

how they can make it a more successful one the next time.

Two areas of interest tend to surface at this point. Some faculty members begin to use

classroom assessment techniques to gather information from their students. Others

concentrate on asking better questions to stimulate better classroom discussion.

Season of Community

A major feature of participation was the benefit faculty gained from having time to

meet as a group. The following comments are representative:

I think it is exciting to see faculty talk about their teaching. It does not happen
that often.

It brings together people who wouldn't ordinarily get together and you talk
about things that are really meaningful. There has been a real chemistry with
this group.

This first hand experience coupled with the knowledge gained from studying learning

theory led to the determination on the part of many participants to replicate this kind of

community in their classrooms with their students. Commenting on the program format and

how it had been carried out, a participant said, "I find it very useful since it is so analogous to the classroom."

During this season, the majority of participants have incorporated informal learning strategies into their classroom. Some have begun to use structured cooperative learning strategies more regularly. Many participants use long-term projects, reports, and papers. Some have students evaluate other students work. In addition, participants spend more time getting students involved in designing activities and in decision-making about course content.

Reaching this stage is often a challenge. While participants recognize the ways student-centered approaches can facilitate learning and enliven the classroom, they also recognize the cost in terms of time and content coverage. This is a significant enough issue to demand resolution. Some faculty retreat to traditional strategies as a result. In these cases, the strategies they learn in the program become alternative methods in their repertoire. But for others, this conflict produces a fundamental change. This change usually occurs in conjunction with a re-examination of their discipline. In short, they work to find the big ideas of their discipline while at the same time they redefine the concept of rigor in their teaching. They refer to this process as learning to "uncover the discipline" vs. "cover the material." What this means is that these faculty have come to believe that it is better to concentrate on fewer well-defined concepts and elaborate these pedagogically than to cover more material at superficial levels. This is a huge freedom when teachers make this connection.

Typically, at this point, they also learn that it is all right to modify the strategies they are learning in order to deal realistically with the constraints of their own situations. As teachers become more comfortable with this knowledge they make one more shift. They become co-learners with their students. Because they give grades, participants cannot totally

remove themselves from the role of being authorities. However, they learn to wear their authority in ways that give students more power in the classroom.

Season of Worthiness

Developing learning communities and uncovering the heart of one's discipline is hard work. By focusing on a shared vision of learning and providing a common language for talking about learning to each other, to students and to colleagues outside their immediate learning community provides a sense of cohesion that reaches across participants and disciplines. By the end of their first year experience the majority of participants are genuinely proud of their accomplishments. They see themselves as worthy of the time they have invested while they begin to decide what content is worthy of deep understanding by their students.

This final transition might be described as the integration, synthesis, and consolidation of their changed role as "educator" vs. "instructor." This shift reflects the assumption that students as learners should be involved in as many aspects of the learning process as possible. As educators vs. instructors the role of the teachers becomes doing what it takes to help students understand more robustly what they have studied.

Participants have identified a number of contrasts in their transformed role as educator vs. instructor (see Figure 2). For example, rather than cover the material they uncover the discipline. As educators they accept responsibility for learning rather than assume authority to teach. As educators they assess to promote learning rather than evaluate to control, classify, and sort.

Finally, for many faculty members, participation in the program helps to validate what they have been trying to do in the classroom alone without resources, knowledge of

strategies, and support. Once they learn to name their practice, their learning has a snowball effect allowing them to build on their successes. These changes in perspective and practice are the outcomes LEA/RN seeks to produce.

Conclusions and Lessons Learned

The majority of participants in Project LEA/RN change their attitudes towards learners and learning and their teaching practices. Our findings indicate the direction of the change is from a view that sees teaching primarily as the transmission of knowledge to a more complex view that sees teaching as a means of achieving specific student outcomes and uncovering the heart of one's discipline. Participants begin to see the teachers' role as more integrated, holistic, intellectually challenging and fun. If one subscribes to the perspective that confronting beliefs is a necessary component of changes in teaching practice, then the approach to development we describe has much to recommend it.

As we reflect on our experiences, we are reminded of several recurring lessons that may be of assistance to others implementing similar models of professional development.

Participation in the program should be voluntary and free from evaluative consequences. Coercing faculty to change teaching behaviors or attitudes is counterproductive. It is our experience that there are many faculty eager to experiment with new methods and paradigm but need a forum for doing so.

Encourage each faculty participant to target a specific course to work on throughout the program. This focus allows participants to identify learning outcomes from the beginning and to integrate insights directly into their own contexts and discipline.

Make planning time part of the scheduled activities. Planning purposefully for learning provides a basis for faculty interaction during regular meetings. As faculty

participants develop a model for planning they begin to move past the felt need to use all of their class time to cover material. Planning for intended outcomes helps participants to identify the enduring understandings that comprise the heart of the discipline.

It is crucial for facilitators to possess a thorough knowledge of group dynamics as well as a working knowledge of literature related to learning and teaching. Facilitators need to anticipate how they will balance the tension between developing trust and confronting teachers' beliefs in order to move teachers forward.

Finally, make faculty development an ongoing experience. It would be an exceptional teacher indeed who could meet a concept once and integrate it fully into practice. Most participants need time to wrestle with new concepts and time to practice new strategies. Even after participants begin to use strategies they need support and opportunities to engage in discussions with other colleagues to keep their practice interesting and dynamic.

Final Thoughts

With the aim of better preparing students for their adult lives, faculty on campuses nationwide are engaged in efforts to improve the quality of their instruction and redesign their curricula. Such efforts have significantly increased expectations for student achievement. In turn, increased expectations for student achievement have increased the demand for learning-centered faculty development programs.

Such programs require significant investment of time, resources, and energy. Yet, if we are truly interested in changing the culture of education to one that values teachers and one that takes student learning seriously this is the kind of investment we need to make.

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Traditional Paradigm	Learner-Centered Paradigm
Knowledge is transmitted from professor to students.	Students construct, transform, and extend their knowledge through gathering and synthesizing information and integrating it with general skills such as problem solving and critical thinking.
Students are passive recipients	Students are actively involved.
Emphasis is on acquiring knowledge (often memorizing) outside the context in which it is used.	Emphasis is on using and communicating knowledge in "real world" contexts.
Professor's role is information giver and assessor.	Professor's role is coach and facilitator. Both students and professor assess learning.
Teaching and assessment are separate	Teaching and assessment are interconnected
Culture is competitive and individualistic	Culture is cooperative, collaborative, and supportive
Only students are considered learners	Professor and students are co-learners
Professor holds and exercises power, authority, and control.	Students are empowered; power is shared among students and between students and professor.

Source: Adapted from Huba and Freed, 2000; and Smith and Waller, 1997

Figure 2. Comparison of Traditional and Learner-Centered Paradigms

Instructors	Educators
Talk	Listen
Tell what	Ask why
Practice one-way, scripted delivery	Display agility for interactive exploration
Cover the material	Uncover the discipline
Fill the empty vessels	Foster learning
Occupy a passive classroom	Orchestrate chaos to create meaning
Assume authority to teach	Accept responsibility for learning
Rely on extrinsic motivation	Energize intrinsic motivation
Use discipline	Socialize into the discipline
Answer the questions	Question the answers
Control to pacify	Support to liberate
Evaluate to control, classify and sort	Assess to promote learning
Protect knowledge expertise	Partner to construct knowledge
Fear not knowing	Anticipate and explore the unknown
Forge on through the term	Pause to reflect and to adjust the course
View students as they are	View students as the professionals they will become
Are detached in the classroom	Are engaged in learning with students and colleagues
Are unwilling to explore	Practice critical discourse of learning
Underestimate their influence	Understand their power in the classroom

Figure 3. Perspective Shift from Instructor to Educator

AN EDUCATOR'S MANIFESTO: FACULTY PERSPECTIVES ON A LEARNING-CENTERED DESIGN

A paper to be submitted to *To Improve the Academy*

Carol Fulton and Barbara Licklider

Introduction

Until recently, workshops and short courses dominated the landscape of faculty development. A review of these efforts reveals an emphasis on strategies and "how-to" methods. Missing or receiving less emphasis is discussion of learning and learners or even the context of teaching. However, as more emphasis is being placed on learner-centered strategies and new paradigms of teaching, developers are realizing that faculty development needs to experience a paradigm shift of its own, moving from a paradigm that emphasizes techniques to a paradigm that helps faculty improve their understanding of the process of learning.

The perceived importance of faculty development is directly related to the nature of current learning outcomes for students. Concerns surfaced in significant quarters that higher education is not producing graduates who have the skills necessary to keep pace in a rapidly changing workplace. According to current views, the basic problem is that although faculty members want their students to achieve higher kinds of learning, they use methods of teaching that are not effective for promoting this kind of learning. To achieve active learning on the part of students a great deal of learning will be required on the part of faculty, the vast majority of whom were taught and learned under a different paradigm of instruction.

New Paradigms of Faculty Development

Most college teachers learned to teach using the lecture method. A long history of research has shown that traditional, teacher-centered instruction has limited effectiveness in helping students retain information, develop the ability to transfer information to new situations, or change thoughts and habits (Gardiner, 1994). These findings suggest that our current approaches to college teaching are not working very well.

The current view promotes the idea that the key to improving instruction lies in focusing on student learning (Angelo, 1994; Cross, 1990). The idea of focusing on learning requires rethinking the roles of students and teachers and re-examining common assumptions about the nature of knowledge. To focus on learning requires that faculty challenge basic assumptions about how people learn and what teachers can do to support learning. To focus on learning requires that faculty unlearn ways they have taught and acquire new habits of practice. Many believe that higher education must change the culture that is created in classrooms towards one of creating significant learning experiences for students (Barr & Tagg, 1995; Huba & Freed, 2000). From this perspective the question becomes what will help educators move toward a learning-centered paradigm?

The shift to a learning-centered perspective presents significant changes for faculty and institutions. Why should faculty spend the time and effort needed to learn how to implement new ways of teaching? Most faculty members feel overwhelmed already with their present teaching, research, and service obligations. So, suggesting that faculty take on a big change is no small issue, even for faculty who wish to make the transition. Most faculty know little about how students learn. Their disciplinary training provided little in terms of

pedagogy in the first place, they know even less about new views. Needed are opportunities for faculty to come together as learners to learn about learning.

For faculty to make a paradigm shift they need the chance to experience a learning-centered environment. To unlearn old habits of teaching and experiment with new ones, faculty need opportunities to practice in their own classrooms with support from those who are knowledgeable about current applications in educational research and theory. They also require social interaction with peers who experience the same frustrations and joys of life in the classroom. These notions are the tenets of the emerging paradigm of faculty development. Based on an appraisal of the depth of relearning required of faculty, the new paradigm of faculty development has several features.

First, faculty are learners. Developers need to engage faculty in activities that encourage them to construct new meaning perspectives and deeper understanding of learning and teaching.

Second, faculty assistance needs to be grounded in the content of teaching and learning. Traditional forms of faculty development tend to focus on topics such as cooperative learning, but do not help faculty link these concepts and practices to their own disciplines. Professional development should allow faculty to practice strategies, as well as make the transfer to the disciplinary knowledge they teach.

Third, faculty want interaction with their colleagues but the pressures of faculty life often limits such interactions. The new paradigm encourages collaboration and building communities of professional practice to counter the isolation and harried nature of faculty life.

Fourth, allowing sufficient time is essential to the success of a program. Activities of longer duration have more opportunities for active learning and more coherence with faculty members other responsibilities than do one-shot in-service workshops.

If teachers are expected to teach in new ways, including designing significant learning experiences that promote complex thinking skills, it is essential that they receive the support to help them succeed. Professional development must change to meet that challenge.

Project LEA/RN

LEA/RN is one model for professional development that supports faculty as they move from a teaching-centered to a learning-centered paradigm. Its theoretical approach and core framework was initiated in 1993 by a professor in Educational Leadership in response to requests from the College of Engineering. After a successful pilot project, the program subsequently expanded to a campus-wide effort in order to introduce more faculty to the theory and practice of learning-centered ways of teaching.

LEA/RN draws from the research base of adult learning theory and best practices in staff development. Adult learning theory provides several core elements for designing effective development efforts including self-directedness, reflection, transformative learning and discussion with colleagues (Cranton, 1994; Knowles, 1994; Mezirow, 1991). The core structure of LEA/RN adheres to best practice literature from staff development research (Joyce & Showers, 1988, Sparks & Richardson, 1997).

LEA/RN is an ongoing model. The term ongoing model conveys that LEA/RN provides for an extended examination of learning rather than the more traditional limited workshop focus. Such a format affords the opportunity to lay an adequate theory base,

increase awareness, and promote collegial sharing. LEA/RN provides opportunities for

faculty to experiment with new strategies while receiving feedback and coaching.

LEA/RN operates on several key assumptions about faculty. including: faculty want

to be effective teachers, faculty will devote time and effort to improve the effectiveness of

their teaching, and given the proper opportunity and support they will make rapid progress.

LEA/RN recognizes that many faculty members feel inadequately prepared for the multiple

roles they are asked to fulfill. LEA/RN wants them to be successful and satisfied in their

professional and personal endeavors.

Implementation

Structure

Faculty meet in two-hour large group sessions every two weeks throughout the

academic year. This format provides opportunity for demonstration, stimulates ongoing

discussion about teaching and learning and fosters an atmosphere of trust that comes from

working together over time. Such an environment provides a safe, stimulating context in

which to challenge assumptions, experiment with new behaviors, receive feedback on revised

practices, and share classroom experiences with colleagues.

Participation in the project is voluntary. Feedback associated with the participation in

the program is independent of the formal faculty review process.

The main goals of Project LEA/RN are two-fold: first, to encourage faculty to

approach instruction purposefully and second, to promote attitudes favorable toward

learning-centered approaches to teaching. While no prescriptions or formulas are provided in

the project for how faculty "should" design classroom environments and activities,

facilitators operate in a learning-centered mode while leading sessions.

Participants play an active role in the planning and direction of the program. In addition, faculty are encouraged to serve as resources for one another.

Content

The content of LEA/RN is presented in a series of four key thrusts: engagement strategies, questioning strategies, lesson/course planning and assessment. Early sessions introduce participants to active learning strategies such as Turn to Your Partner (TTYP), Problem Solving Pairs, and Note Taking Pairs (Johnson, Johnson, & Smith, 1991). The introduction of interactive teaching strategies goes hand in hand with in-depth study of learning theory. As this thrust evolves, faculty also study effective group functioning and more formal cooperative strategies.

As professors work to incorporate these strategies into their courses, they discover that the "quality" of the questions they ask play a significant role in promoting (or not promoting) interaction among students. This leads naturally to the second thrust. Through a number of structured activities faculty examine the relationship between the types of questions they ask and the type of learning required by students. Faculty examine specific lessons and work to develop questions that promote higher-level thinking (see Bloom in Gronlund, 1985). Facilitators model a number of strategies including wait time and inductive strategies.

The key focus in the third thrust is lesson planning. Faculty members work to develop objectives, activities and lesson sequences that are conducive to learning-centered instruction. This thrust asks faculty members to identify the big ideas in the discipline. Put simply, the big ideas are the essential understandings teachers want their students to master from the course they teach (Wiggens & McTighe, 1998). Structuring around big ideas is a

magnitude shift from the traditional method of lesson planning that emphasizes "covering the material."

The final thrust introduces faculty to alternative classroom assessment techniques such as the Minute Paper and the Muddiest Point (Angelo & Cross, 1993). The project assumes faculty are familiar with standard methods of testing. It offers faculty a broader repertoire of collecting feedback from students.

Each of the thrusts are designed and presented to establish a knowledge base in learning theory, develop an array of progressively more effective teaching strategies, and foster ongoing discussion about teaching and learning. While these four thrusts reflect the core of the first year curriculum, the project is paced to participant needs. In addition, the facilitator has the responsibility of balancing the core thrusts with the interests of faculty, supplementing them as needed with additional materials or topics.

Process

The earlier discussion on adult learners suggests several conditions must be met for learning to occur: faculty must be given the opportunity to make their basic assumptions known. These basic assumptions must be challenged. If they are not, no learning will occur.

To raise the level of awareness about assumptions and begin the transformative work of unlearning and relearning habits of practice, facilitators structure learning environments that prompt faculty to reflect on critical incidents. Facilitators understand critical incidents to be those "aha" moments that make teachers aware of some aspect of what is going on that they have not noticed before.

The power of critical incidents is the way they allow the tensions of teaching to surface. Resolving the tension provides the opportunity for critical reflection and potential

revision of previously held beliefs about teaching and learning. An example will illustrate how this transformative process unfolds in Project LEA/RN.

Initial sessions provide faculty with the opportunity to identify their existing conceptions of teaching and learning and serve to introduce active learning strategies. The project begins with an activity called "entrance exam." Faculty are asked to think about and to discuss with the larger group, different approaches that instructors can use to structure learning experiences for students. Facilitators lead a discussion of three basic approaches: competitive, individualistic, and cooperative (Johnson, Johnson, & Smith, 1991).

Faculty participate in these structures experientially. They are given problems to solve, each of which is introduced using a different instructional approach. After each approach, faculty are asked to write down any reflections on their experience as "students." At the completion of the exercise, faculty and facilitators engage in a discussion about these reflections. The point of the exercise is to prompt faculty to begin to think in terms of how students experience instruction. Faculty have been socialized to approach instruction from the instructor's position. They learn this very well. This exercise turns the table focusing on the student experience. Teachers talk about the implications for learning and about instruction that might make classrooms more inviting. Group facilitators use this activity to scaffold to interactive strategies. Facilitators offer encouragement, "Listen to what your students are saying. Watch how they respond, how they interpret what you ask them to do."

Throughout the year through structured activities such as these, teachers are invited to uncover the contradictions in their work. As they begin to examine what they currently do, they are able to enter into a conversation about change – change based on their experiences as learners.

Expanded Opportunities

Between bi-weekly meetings faculty can participate in expanded learning opportunities. Base groups and learning partners are two extended possibilities. Base groups allow faculty to read and discuss articles related to teaching and learning. Learning partners provides opportunities to engage in peer coaching and observation in each other's classes for the purpose of providing support and feedback.

Impact

To assess the impact and effectiveness of Project LEA/RN we examine faculty feedback looking for themes and patterns. Our goal is to understand participants' experiences in our program in order to be responsive to their needs as learners.

Large group discussions are taped, transcribed, and analyzed. In these large group discussions, participants describe what they have learned, what they are still uncertain about, etc. The ongoing nature of the discussions provides insights into how participants understand the concepts and the context within which they operate. In addition, as part of the ongoing evaluation procedures, participants are asked regularly to write about their learning. Written responses include journals, structured reflections, practice inventories, lesson plans, and pre- and post- observation conference notes. Respondents are assured that their responses and written reflections will be treated confidentially. For this paper, the authors also had access to interview data. The data analysis followed a deliberative process that allowed for corroborating categories between the data sources. Our themes are also informed by the literature on teaching/learning and educator development.

The overall responses of the participants has been that participation in the program contributes to professional growth by providing space and time to think more deeply about

their work as teachers. Participants repeatedly mention how much they value the opportunity to interact with peers. In addition, they report that the LEA/RN experience positively influences their classroom practice. To provide more description about the impact of the program, we consider observations and feedback specifically related to program objectives and faculty roles and responsibilities.

Recognize what faculty know about learning and teaching

When asked what attracted them to the project a major theme was the feeling of being inadequately prepared as teachers. Many describe the irony confronting many college teachers, namely that they received very little preparation for their roles as teachers. The first exposure to the burgeoning literature about learning can be overwhelming, even for faculty members who have been teaching for some time. However, as faculty members begin to study learning theory and develop a common language, they discover that they intuitively have some understanding about the learning process. They are pleasantly surprised when they can draw connections linking their own experiences as learners to the literature on learning. They find the sessions intellectually stimulating. For many, Project LEA/RN represents the first extended opportunity they have had to study teaching and learning in their discipline.

Change the discourse about teaching

During the first month of the program participants often struggle with their own beliefs about what good teaching is "supposed" to look like. Much of the struggle revolves around the academic culture that socialized them into the teacher-centered paradigm. The struggle with beliefs begins during the first sessions and continues over the next several weeks as participants are introduced to active learning strategies. Typical objections are that

learning-centered methods take time away from important content or are not well suited for their course or their discipline.

However, as they experiment with strategies in class and discussions with their LEA/RN colleagues they express relief to find there is "no one right answer." No one is going to tell them what to do. There are no prescriptions or formulas to follow. As teachers, they are the decision makers. As they discover that they need to determine what makes sense to them and that they cannot teach fully until they do this for themselves, the protective resistance begins to melt and transformation of teachers' role begins.

Two areas of transformation that faculty consistently associate with their participation in the program include unlearning the habit of "covering the material" and rethinking their role as the "sole authority" in the classroom. One outcome of the institutionalization of the teaching-centered paradigm is faculty members concern about covering material. Several teachers reported that their preoccupation with covering material sometimes stunted their ability to see student needs. They felt that the LEA/RN focus on uncovering the heart of the discipline rather than the emphasis on covering material represented a fundamental shift in thinking. This breakthrough in their thinking freed them up to teach fewer concepts more robustly without feeling like they are sacrificing content.

Being energized by students is another transformative experience reported by many participants. It is not uncommon for professors to complain that students don't do well on tests or seem indifferent to material being taught. They are baffled by student behavior. A classroom experience that often becomes a transformative change is when they ask students what they are thinking. For many faculty participants this first step toward partnering with their students helps them realize how much their students can help them become better

teachers. Stepping out of their comfort zone as sole authority and learning to ask and listen to students is when their teaching comes alive. They learn to ask more and tell less. The classroom becomes "our" classroom where both students and the professor are learners.

Foster community amongst faculty

Despite the fact that faculty members are seldom alone, they often experience isolation. The built in tension between research/teaching and the demands on a faculty member's day rarely produces time for sustained interaction with colleagues. Furthermore, teachers sometimes choose isolation as a way to fend off interruptions in a system that feels overwhelming. Rather than seeing the program as one more thing to do, participants viewed LEA/RN as a vehicle for breaking down the isolation of teaching. Many saw the opportunity to develop meaningful relationships with colleagues as one of the key benefits of participation. Several were struck by the community developed in LEA/RN groups and described a desire to reproduce the model of interaction in terms of other professional interactions with peers.

Impact Classroom Practice

Current reforms stress the cognitive and emotional benefits for students who participate in classroom environments that support high levels of trust and nurture collaborative interactions. Faculty mentioned that participation in LEA/RN increased their awareness of the need to build this kind of classroom environment. Several teachers adopted strategies used in LEA/RN to help them build a safe classroom culture.

Many participants reported that they had experimented with learner-centered strategies, but that the LEA/RN approach offered a way of organizing what they did. They mentioned revamping familiar lessons, teaching in different ways. Also, the active

engagement of students in the learning process featured heavily in their comments. Many

pointed out the value of breaking a large group into smaller groups to facilitate active

learning. Others were struck by the need to learn how to ask good questions in order to have

meaningful discussions.

Many participants highlighted how deeply impacted they were by the LEA/RN

facilitators. They spoke of the ways they were listened to and respected and shared a

commitment to model similar stances in their own classroom. In particular, they identified

the importance of creating a safe space for learning.

Promote professional growth and renewal

Throughout the stories faculty shared with us, participants spoke of being

overwhelmed by the demands and pace of work. From this perspective participation in

LEA/RN was a concrete step to fight burn out. Several members underscored how

participating in LEA/RN was a time they guarded as a means of taking care of themselves.

Several mentioned how participation in LEA/RN provided the time and opportunity for

faculty members to replenish their energy and their commitment to teaching. It was easy to

get worn out. Overall, participants recognized the link between their own well-being and the

effectiveness of their teaching and felt that participation in LEA/RN helped them stay

optimistic.

Challenges and obstacles

The two challenges consistently linked with the adoption of a learning-centered way

of teaching are time and existing culture. LEA/RN groups have wrestled with several time-

related issues. First, it is not a simple task to find a two-hour block of time for the bi-weekly

meeting that fits the schedule of 15 people. Second, at the outset faculty need time to learn

about learning-centered instruction and the new roles associated with it. Too often time allocated for teachers to practice strategies is inadequate. Department heads and colleges are often anxious to be able to say that they are learning-centered. Under such pressure the change process is often rushed. Pressures can be particularly acute when the change process involves changing multiple aspects of instructors' practice, as is the case with helping faculty move from a teaching-centered to a learning-centered paradigm. Faculty find themselves involved in the necessity to rethink teaching strategies, their course curriculum, and assessment methods any one of which can be time consuming. A third time-related challenge rears its head when the change effort opens up too quickly to a wide audience. Without laying an adequate foundational experience a focus on breadth in terms of faculty reached can result in a lack of depth in terms of the quality of the experience.

From the standpoint of human growth and development the process of change is never truly complete. For instance, faculty who practice discussion as a way of teaching may work on the art of a good question for a lifetime and still find gains to be made. Teachers may wonder whether or not they can keep up their resiliency in the face of ongoing change. This question is particularly poignant in light of the second challenge: the existing culture.

Our findings suggest that the decision to invest the time and energy to improve teaching is largely one that stems from the individual. However, faculty are unlikely to make the decision to change when they feel a lack of congruence between their efforts and what the institution most values. In terms of congruence, many faculty felt that support for learning and collaboration was frequently more rhetorical than substantive. They did not think that current structures or rewards supported a learning-centered paradigm.

An Educator's Manifesto

The image of teaching that many faculty bring to the classroom is one that requires the teacher to fill space, not create space for students to construct their own meaning. Participation in Project LEA/RN invites them to think differently about the dilemmas of teaching. It continually invites professors to consider what they want students to know and to fathom the mysteries of how people learn. Making this journey of discovery can make a significant impact on faculty. After participating together as a team for several years, one group of faculty composed the following group statement on learning. They called it their educator's manifesto. We share it here to give readers an idea of what participation in LEA/RN means. It describes what they have learned about their own learning, their students, and change in post-secondary education.

This we've learned about our own learning

Our need for community

Faculty make greater strides in their own learning and in their teaching practices if they go forward together. We learn so much more from each other, regardless of discipline.

We respect the experiences of other learners.

We practice inclusion.

Collaborating with other learners is a labor of love.

The whole is greater than the sum of the parts.

Persistence in risk-taking requires support, encouragement, and technical assistance.

What our commitment to learning involves

Moving toward a learning-centered paradigm requires practice (and practice, and practice, and practice...)

Without continuous support and high expectations, it is very easy to slide back into old habits.

Change is difficult and unsettling, but invigorating and stimulating.

Confronting our own assumptions about teaching and learning is often challenging and uncomfortable.

Getting better at helping students learn is involvement in a never-ending journey, and an often-exciting adventure.

Our evolving understanding of learning

Faculty learning is much the same as student learning: individual, constructed from experiences, constant, grounded in beliefs (conscious or subconscious).

We recognize that learning is not about "material" but about self.

We prioritize self-discovery and celebrate the becoming (actualizing) of learners.

Learning and personal growth are intertwined.

We become our knowledge.

We profess our knowledge with delight and enthusiasm.

This we've learned about student learning

Our hopes for students

All learners are capable of great things

Students deserve better preparation for life

Our students will change our world in positive ways.

Students and learning

Students like to learn.

Students can, and will, take responsibility for their own learning.

Students tend to learn more deeply through social interaction.

Students are very resilient creatures; they can do things differently.

Students' interest and learning is enhanced when they see the relevance to themselves.

Students respond to change positively if the rationale is explained to them.

Overcoming obstacles to learning

Students don't always (at first!) like learning-centered educational opportunities.

Students have been well-conditioned to follow.

Students (other learners) are entitled to err and to doubt.

Learned helplessness is a common stumbling block even for adult learners.

Our roles in helping students learn

Students need our knowledge in challenging rather than punishing frames.

An hour exam often creates a threatening environment that inhibits learning.

The professor has incredible influence related to student learning.

Students know and appreciate when their instructor is genuinely concerned about their success and learning.

Because every student constructs meaning differently, we give students a gift for a lifetime if we help them discover what works for them.

This we've learned about change in post-secondary education

Moving to a learning-centered paradigm for postsecondary education takes time.

It's difficult to measure progress toward cultural change and/or even toward a personal paradigm change.

It's often uncomfortable confronting values and beliefs about teaching and learning, but it has to be done to make changes.

The culture of the institution has more influence on our behaviors and actions as educators (or teachers) than we even know.

Progress is most swift with administrative support, and progress is at least possible if there are no administrative roadblocks.

This is what we believe

To educate is to serve

Committing to values related to learning takes courage.

Learning is change, and change is often difficult.

Learning is individual, even though groups help make learning happen.

To really learn means to expose your very self, risking criticism and rejection.

A safe environment is fundamental to learning.

The effort to change is its own reward.

Educators contribute far more than knowledge of a discipline to every learner's development.

Educator's help people reach toward their greater potential. Becoming better at enhancing student learning is our responsibility.

Today's educators prepare tomorrow's decision-makers.

Education is liberation.

Educating well is a moral responsibility.

Learning is the goal. Every other activity of a university should support this goal.

Implications for Faculty Developers

Calls to improve education continue as external pressures push higher education for results. Holding faculty to high expectations is consistent with the role they play in society. However, holding them to high standards and not providing support sets up an educational

system that falls short of accomplishing the achievable. Because so many potential opportunities exist to improve the learning experiences of students we believe that professional developers must play a significant role in the proposed paradigm shift. But if professional developers are to be effective in supporting the transformation of faculty practice, they too, must undergo a shift in their beliefs and practice.

The paradigm shift for professional developers represents a clear break from traditional faculty approaches that focused on teaching faculty skills to use in their classrooms. In order to have a deeper cultural impact, developers need to move towards the use of multiple pronged approaches to broaden faculty capacity for pedagogy, student thinking, and designing significant learning experiences. This means that developers need to broaden their repertoire beyond those skills and knowledge bases required to present workshops and seminars. In addition, developers need an understanding of how to combine pedagogical skills into a comprehensive model for working with faculty.

We found it useful to use learning as a starting point for faculty development and developed a model aimed at promoting learning-centered strategies that features reflection on critical moments in teaching, collaborative community building and teacher empowerment. We found that after studying learning, many faculty gain the self-awareness and self-confidence to make their teaching even more effective for improving student learning. By examining their own critical moments in teaching and learning, faculty see teaching as more than a list of techniques. They begin to see their role as teachers as more intriguing, complex, and even fun.

For these reasons we believe that structured activities for professional experience have considerable potential. These activities can be constructed to match desired program

outcomes – in our case we focus on the strength of engagement strategies, learner feedback, and teaching more with less, reinforcing our view of the centrality of learners in the teaching/learning process. These activities offer helpful scaffolding for teachers' reflections on past teaching and prompt consideration for individual learners and groups of learners and influences planning for future instruction in purposeful ways.

A fundamental assumption of the new paradigm is that decisions about content and other issues that affect faculty directly should be made collaboratively between the faculty and developer. This support structure provides challenges and practical possibilities for developers. As faculty experience a redefined role of "teacher" as one who questions and listens as well as talks, developers can help them build on the knowledge base and encourage them to engage in a collaborative community that supports them to take risks and experiment in their classrooms. Faculty development programs have an obligation to introduce, encourage, and sustain collaborative efforts, which can make a difference in what students experience in the classroom.

An eye-opening experience awaits professional developers accustomed to working with faculty in short-term in-service settings. In the every day world of lived experience there is often a lack of congruence between what faculty "learn" and what they "teach." Like students, teachers need help making transfer between what they learn in professional activities and what they bring to the classroom. The interplay between acquiring new knowledge and skills and incorporating them into habits of practice is complex and not straightforward. Developers can be an objective voice over the long haul of change. In order to help faculty change habits of practice, developers in the new paradigm will need not only technical skills, but also a well developed ability to deal with interpersonal relationships in

the context of sustaining long-term improvement. Working with diverse faculty and multiple

needs requires tact, imagination, knowing when to affirm and when to stretch. To be sure

creating a community of learners is hard work. Providing opportunities for teachers to learn

about themselves and what they bring to the task of teaching are critical to providing a

meaningful and successful experience.

We acknowledge the journey towards learning-centered faculty development is not

without obstacles. For most participants expanding expectations, the intensification of work,

the pace of professional life and the pressure for accountability make it difficult to find time

and energy for professional experiences. In order for hoped for cultural changes to occur

faculty need to know that learning and teaching is valued and that they will be supported in

their efforts to develop significant learning experiences for students.

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GENERAL CONCLUSIONS

In this series of papers I examined the links between faculty development and the current imperative to improve undergraduate education. The first paper details a theoretical foundation and framework for an interactive model of faculty development. The second paper describes the implementation of this model with a particular focus on teaching and learning. The third and fourth papers examined the experiences of faculty in the model.

Together these papers span a broad and complex topic. These concluding pages highlight a few recurring themes from the papers.

More than any time in recent history, faculty development is being viewed as the key to improving undergraduate education. The timing of this connection is no accident. The perceived importance of professional development is directly related to the ambitious goals for students. The nineties witnessed the emergence of a shift in the theory of instructing and assessing student achievement and performance. The advent of this paradigm paralleled increased demand for students to develop skills such as working in teams, organizing and analyzing information, using technology, and communicating ideas.

It is now widely perceived that meeting these goals requires a considerable amount of learning on the part of faculty members, the majority of whom were taught and learned under a different paradigm of instruction and learning. The kind of learning sought by reformers has been described as transformative, that is, requiring deep changes in perspective, process, and practice.

As currently structured, faculty development in support of teaching is unlikely to produce transformative change. In most cases, support of teaching has been in the form of workshops or consultation consisting primarily of providing participants teaching tips. This

approach to development fit the traditional paradigm of teaching and learning in which students' role consisted of practicing and memorizing facts and skills, and instructor's roles consisted of demonstrating procedures, assigning homework, and giving grades. However, these one-shot faculty development opportunities are not designed to address learning. In an age that considers learning to be the centerpiece of reform, faculty developers must experience a paradigm shift of its own, moving from a paradigm that emphasizes tips and techniques to a paradigm that helps faculty improve their understanding of the process of learning.

The project described in these papers, Project LEA/RN (Learning Enhancement Action Resource Network) came about during this ferment of reform. It represents one example of the new paradigm of faculty development. Its focus and structure embody the translation of theory and research into practice. Participation exposes faculty to new knowledge to remind them of the excitement of learning. At the heart of Project LEA/RN is the aim of immersing faculty in educational environments to build strong, on-going support groups among faculty to sustain long-lasting change. Against this backdrop, activities are designed to:

- Nurture the identity of the teacher, enhancing their self-worth, pride of accomplishment, and enthusiasm.

- Encourage teachers to be learners and to re-examine continually beliefs about teaching. Furthermore, being a student gives a teacher a renewed perspective of the student's role.

- Expand participants' ability to evaluate teaching techniques and strategies based on underlying assumptions about learning to determine the appropriateness of a technique for use in their classroom.

- Expand participants' ability to develop assessments that encourage and support ongoing learning.

- Create a context for building community and interacting with colleagues about learning and teaching.

The goal of Project LEA/RN is to help faculty reflect critically on their teaching so they can make their teaching even more effective for student learning. Facilitators do not tell participants how to teach, but they do model a learning-centered approach to instruction and assessment. Activities are designed to give faculty the opportunity to experiment with strategies, provide feedback on revised practice, and encourage continued discussions of teaching and learning.

The ongoing assessment of the project allows facilitators to make the program responsive to faculty needs as learners. Results of ongoing evaluation indicate that a majority of participants felt that participation in Project LEA/RN renewed their commitment to teaching; enhanced their relationships with colleagues; and strengthened their teaching. The themes that emerged as central to individual learners and group discussions were a testimony to the program's effectiveness in immersing faculty in a positive educator environment. Participants spoke of the professional impact on the role of the teacher and how participation impacted their classroom practice and student relationships. They also spoke of Project LEA/RN as a vehicle for renewal.

These results highlight a number of strengths across several indicators. On the whole, Project LEA/RN initiatives are contributing to a transformation in the culture of teaching. There are two factors that most contribute to its deep effect on participating faculty.

The activities are student-focused, project-oriented, teacher-directed, and practical. Faculty member's enthusiasm for content can sometimes lead them to think that the content will sell itself. However, facts and questions alone, rarely constitute a class. Faculty need to pay attention to students and how students experience learning. This is a point of departure for many faculty members. In LEA/RN, it is learner responses to teaching rather than content coverage that is the subject for exploration. Rather than throwing teaching tips at teachers, activities center on considering fundamental assumptions about teaching and learning, their connection to current research, and how they are ultimately manifested in lesson plans and on course syllabi. Participants reflect about their assumptions and motivations as teachers. They examine their syllabi and lessons working to more clearly articulate learner outcomes and to structure the semester in ways that move from "covering the material" to "uncovering the heart of the discipline." They next work to design and link assignments to identified outcomes.

Each participant targets a specific course to work on throughout the sessions. This project focus allows participants to plan with a purpose in mind and to integrate insights into their own contexts. The recursive process employed by facilitators ensures that teachers make the transfer from the development activity to each of the aspects of the chosen course.

LEA/RN respects what teachers know and holds that once teachers identify what they need to learn and do in order to be more effective teachers, they will make rapid progress in their growth. An important support for a group of faculty is to identify a facilitator. The

facilitator should be someone who is knowledgeable about content and who is skilled in handling interpersonal dynamics.

The content selected for collaborative inquiry revolves around practical issues that teachers face in teaching the class. Facilitators try to be as practical and helpful as they can.

The second factor contributing to the deep effects on faculty is recognition of the time commitment required to develop community. Time and time again, the most beneficial aspect of Project LEA/RN cited by participants was the opportunity to talk with colleagues about teaching and learning. When planning for faculty development it is important to allow sufficient time for reflection and sharing experiences. True dialogue requires laying a foundation of trust and respect. Creating a safe space to disagree and work through disagreements takes time to build. Usually, teachers are surprised at the mix of participants, but soon find that regardless of subject area, they face similar issues. This realization greatly reduces the feeling of isolation and creates a sense of connection and shared purpose.

Will the learning revolution achieve the goal of improving undergraduate education? The results here should give reformers pause. The findings are both exciting and disturbing.

For all participants, the intensification of work, the ever-expanding curricula, and pressures of external accountability made it difficult to find time and energy to work on teaching. Moreover, there is a limit to how much reform can be accomplished through faculty development alone, even when well conceived and faithfully implemented.

The single most pressing issue facing faculty is how to balance the competing tensions of research and teaching. Unless the faculty reward system is modified to bring about a more equitable alignment between teaching and research, only a minority of college teachers will make the sacrifice necessary to alter their practices in significant ways.

Short of a major social or economic upheaval the likelihood of such a major realignment remains uncertain. However, taking a fatalistic attitude 'that nothing can be done' is not the answer. Institutions of higher learning can change. Were higher education to care enough and dare enough to take real steps toward educational reform such as supporting substantive faculty development and realigning the tension between teaching and research, the quality of undergraduate education would inevitably move forward and more teacher-scholars would feel valued.

The future of faculty development efforts rise and fall with each passing wave of reform that moves through higher education. These waves can crush programs or programs can rise to the challenge. Research efforts can help programs meet the challenge. This dissertation concludes by pointing out three potential areas of further research.

One current reform initiative is the learning revolution. A benefit of this development is its potential for breaking through the isolation of college teaching. Perhaps for the first time, there has been a space created where faculty members can feel more comfortable admitting that they do not know all there is to know about the instructional process. They are willing to seek help. Faculty developers ought to be there to help.

All the skills that faculty developers have about goal setting, student outcomes, managing change, and teaching for transfer dovetail nicely with the design of learner-centered instruction. What this means for faculty development is that developers must not let this opportunity slip by. Developers must become proficient with learner-centered strategies and be able to serve in an advisory role for faculty. Not all faculty members will ask for help, but they are grateful to have someone translate reform language into practical classroom strategies.

Project LEA/RN staff have begun this work. They are determined to speak knowledgably about learning theory and the relationship of theory to teaching. The findings suggest that the LEA/RN approach provides faculty members with creative ideas and furthers their understanding of the learning process. Perhaps the effectiveness of large group sessions could be enhanced by strengthening the link between the literature on teaching for transfer and the LEA/RN reflective process. This is not a straightforward link. There is still much we can learn about pedagogical growth in postsecondary teaching.

Second, as mentioned, not all faculty members will ask for help. Therefore, another area of study is exploring the nature of faculty who do get involved in Project LEA/RN. What makes them unique?

Finally, an increasing number of institutions involved in graduate preparation now recognize that their students need more preparation than previous generations of faculty received. For faculty developers this represents an opportunity to gather support around the issue of better preparing graduate student assistants. What is the influence of learner-centered approaches on the preparation of graduate students? How effective is the LEA/RN model in helping graduate students use learner-centered assessment? Does learner-centered course design help graduate teaching assistants become more aware of what they do and why they do it? Research in this area could provide a much better idea of the skills needed to succeed and what it means to teach. It is hoped that further research will provide insights for how to best support the growth process in teaching and learning.