COMMUNITY COLLEGE FACULTY DEVELOPMENT: BRINGING TECHNOLOGY INTO INSTRUCTION

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Community college faculty development programs assist faculty in the development of quality curricula, using current and expanding teaching technologies. The first step in helping faculty reach their respective goals is to help them articulate their instructional needs. Eighteen faculty members participated in this study, using a personal in-depth interview as the research method. Several implications for community college faculty and administration resulted from this study including: the need to emphasize information literacy, the faculty as lecturers who want to use technology as a means of enhancing that lecture, the need for more time to accomplish their instructional ideas, the need for help to incorporate technology in the classroom themselves, and the desire for training classes that fit their time schedules and location.

Community college faculty development programs vary widely from college to college. However, one goal most have in common is assisting faculty in the development of quality curricula using current and expanding teaching technologies. Faculty development professionals know that the key to building a successful program is to find out what faculty want to accomplish in curriculum development and what assistance they feel they will need to reach their goal. Faculty at one community college in the Rocky Mountain area asked the

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authors to assist them in addressing their curriculum development and instructional technology needs.

This satellite campus is located in a city of 100,000 and is approximately 40 miles from the main campus. Prior to 1988, the satellite campus was a vocational/technical school serving the area high schools and other adult vocational activities. In 1988, the school was merged with the main campus and began offering college transfer courses and associate degrees.

METHOD

Believing that the first step in helping faculty reach their respective goals was to determine their baseline, the authors accepted an invitation to a faculty meeting where the project was presented. Thirty-eight faculty, representative of the liberal arts and vocational programs, volunteered to participate in a personal in-depth interview. Eighteen formal interviews were conducted and 10 faculty had follow-up tutoring sessions (some multiple times).

Three questions were generated from discussions with campus administration, the authors' experience, and a review of literature (Cwiklik, 1997; Grabe & Grabe, 1996; Guskin, 1994; Tiffin & Rajasingham, 1995):

1. You have just been hired by a community college to develop a new course in your field. Given no constraints (time, money, politics), how would you proceed to design the course?
2. Realistically, given the constraints as you see this community college today, how would you modify that design?
3. What do you need in order to accomplish your instructional wants and needs?

The interviewees discussed their design with little or no interruption from the interviewer. If they did not understand the question, or if they did not discuss specific issues concerning instructional methods or media, a follow-up question would be asked such as: What kind of methods would you use in delivering this course? The last interview question solicited several instructional and technical issues that required clarification, and the interviewer entered into a dialogue with the interviewee. The authors arranged for follow-up times to assist them with some of their identified areas of need.

The interviews were taped and transcribed. The first three produced good technical quality recordings; however, the fourth had to be discarded. Interviews five through eight were of an acceptable

quality. Beginning with the ninth interview, the information began to become repetitive and not as rich, textually. Ten interviews were selected for transcription and analysis. Using a program called HyperRESEARCH (Research Ware, 1994), the authors open coded the text, grouped the information into emerging themes, and analyzed the resulted information.

RESULTS

These three questions solicited a variety of answers. Three general themes emerged: preliminary course design considerations, instructional delivery methods, and faculty instructional needs.

Faculty Considerations of Course Design

The study participants commented on how they would locate content and design and deliver the course. They expressed interest in looking outside the college for information concerning course content—from visiting other schools to finding information on the Internet. The participants showed concern for attracting students to the program and felt responsible for subsequent job placement. There was some understanding that they were working with adults with adult obligations and adult learning styles.

Sources Outside the College

Some participants would contact government sources in Washington or at the state level; others mentioned contacting their program or department advisory council. Only one person thought it important to contact the target-field working professionals:

> Now, with this course, since I don't know much about [the specific course], one of the things that I'm having to do is to go out and find people who can help me design the courses and who will be my lead instructors, and these are people who are [the specific course] professionals.

Several participants mentioned visiting existing programs at other schools. They would observe classes at these schools, get copies of what the instructors use, design questionnaires and interviews. One participant would investigate what other schools are doing:

> Gathering what's been used, gathering ideas from other people, gathering first-hand experience to put it all together.

In general, the participants preferred to visit other schools and existing programs to see how they delivered the course, rather than rely on government guidelines or advisory councils, or even professionals working in the field.

The participants mentioned attending workshops and conferences, looking at the State's curriculum content guide and doing research in journals. However, most indicated that they would either look on the Internet for information or learn how to use the Internet for obtaining the information. They even used words like "for sure" and "certainly" when saying they would access the Internet. One participant summed it up:

> I probably, at this point, would go about it in the traditional way of gathering all the information that I possibly could, which could include the use of the Internet at this point. And I'm capable of doing that, although I don't do it a lot. . . . I think it's a really good resource.

Jobs and Students

The participants placed some emphasis on the community college partnering with industry and preparing their students for the world of work. As one expressed it:

> I feel like, at a community college, we should be addressing students and getting students ready to work and give them a skill that they could get a job at.

The participants wanted to know the community's demographics; they wanted to know whether the program or course would attract students:

> So, marketing of the course would be an integral part, and seeing if we could actually get students for this wonderful course we're devising, and make sure we have enrollment to cover that.

A small number of participants mentioned that they were teaching adults with adult needs and experiences and not just traditional aged students. As one stated:

> We have a lot of absenteeism; we have many single parents; we have—and this semester there has been so much sickness going around—either people are sick themselves, or kids are sick. . . . And it's not that the students aren't dedicated and so on. Things come up or their cars break down, or sometimes it doesn't get fixed for a week or more, if they have no money. And so it's those kinds of things. If I could send them to

> the library with a computer disc, or the computer lab with a computer disc and say do it. . . . To me, these are the advantages of technology that we should be exploiting.

In summary, the participants preferred visiting other schools and colleges and browsing the Internet for finding and developing the course content, rather than going to conferences and using government or college guides or going to workshops and conferences and researching journals. They also were concerned about whether the course could attract students and whether the students could find employment upon completion of the course. With the content in hand, the participants then discussed the course delivery methods they would use.

Instructional Delivery Methods

Lecturing Techniques

Several participants mentioned that they normally lecture, and they almost apologized for the fact. They said they would rather augment their lecture with a variety of techniques.

> Over the past few years I've gotten much more away from lecture, which is our traditional method that we've used.
>
> I think I talk too much when I teach, and that's something I'm working on, trying not to be their purveyor of information, but maybe the mentor, the coach.
>
> I think we have to not be the lecturers of the past and be more interactive with the students.

The participants most often mentioned the development of the computer slide presentation to augment their lecture. One participant thought that the elimination of the hard copy printouts would be great. Also, to augment the lecture, several participants mentioned using videotapes. Ultimately, what they want is a classroom system where they can easily switch from the overhead projector, to the computer presentation, to the video or even 35mm slides, thus using a variety of tools with little hassle.

> What I'm saying is I'd like to use technology to really bring applications into the classroom.
>
> I'd like to learn how to use the computer to develop my own slide programs and overheads and stuff. The way I do it now, it's just so unwieldy.

> I'm in the process of this year changing all of my lectures. . . . What that means for me is that then I can run off the slides and do them as overheads because we don't have either a laptop or an LCD projector readily available. . . . It's been really useful for the students to have the printouts of the overheads to take notes on, so I've done that.
>
> So, whether you're switching from plopping up something that is loosely referred to as an overhead to running through a video segment of it, a lot of visuals that I assume would be all in one unit.

The participants also want to use multimedia to supplement their lectures, combining the methods mentioned above. They felt it should be interactive (a concept covered later in this article). The participants viewed distance education as using telecourses, e-mail, and other synchronous or asynchronous methods of delivering instruction.

In summary, they saw themselves as lecturers, who wanted to use technology as a means of enhancing that lecture by incorporating multimedia into the lecture and making it available to the students outside of the classroom. The next section will show how there is some attempt among the participants to go beyond using the lecture.

Interactive Learning

The participants wanted the learning to be interactive, among the students, the instructor, and the material. As one participant expressed,

> I think we have to not be the lecturers of the past and be more interactive with the students.

This interactive learning is not an elimination of the lecture but an extension of it, in that, they would still lecture but would use more "interactive" techniques, more techniques that would get them out in the field doing activities. The term they used several times for this was "hands-on:"

> I like to talk about what it is that they are about to learn. I like to demonstrate it and then I like to turn them loose so that they can do hands-on.
>
> Hands-on tests, not multiple-choice, not true-false, but hands-on. And so creating a test that would be a skills test, so you could see if they really know what you taught them, because terminology and those sorts of things are important, but when you get out on the job, it's being able to do the work.

Participants felt that this was a more authentic learning and assessment practice. The study participants emphasized that this interactiveness in learning is accomplished through the use of technology, such as interactive games, role-playing, and simulated modeling that can help the students learn several different disciplines—history, sociology, anthropology, economics, therapeutic communication, nursing. Not only did they want this for the students to use outside of class in a computer lab but also in the classroom, so the instructor could demonstrate the interactive method with the class. They saw the students supplementing the classroom with CD-ROMs in the computer labs using interactive programs. However, they felt constrained because these technologies were not available, or as instructors, they lacked the skills or the time to gain the skills, or even to review the programs:

> The 12 hours of didactic instruction, I think, should be supplemented by a way of students being able to do some problem solving, if we could have some software that could be interactive.
>
> They're never going to be able to get all of it because too much of it is hands-on. But an interactive program would be good. I actually have one now. . . . I haven't had time to sit down [and] use it.
>
> We don't have any of the interactive disc kinds of things that we could be doing with them on a regular basis. And the faculty, myself included, aren't really skilled in doing this, so you know you tend to say, well, go read this or go look at that, or go to the library as opposed to go use the technology and see what you can find.

In summary, the study participants wanted their students to interact with the content in the classroom and be able to replicate the interaction in the computer labs. However, they still wanted the learning to be teacher-centered; they wanted to have control over the learning and the learning process. This control issue extended to the development of the interactive programs themselves.

Faculty Developed Applications

The participants were interested in creating the technological strategies themselves, as long as they had the time to learn and had good technical support available:

> I would have to know how to do it myself, but having a technical support person around if something went awry, would probably be a really good idea. If I can't do it myself, I won't know what's available.
>
> Right now, with my workload, it's very difficult to have time to learn how to do anything additional in terms of professional development for myself and actually get my job done.

> I believe that that [multimedia development] takes a lot of time, and so I don't know how much time I would have to devote to it, but at least if I kind of got started, maybe it's something I could work on.

Paradoxically, while the participants described students interacting with the course material, they still believed that the interactive computer program should be used to supplement instructor lectures. The participants desired to control all that is used in the classroom, even to the point of developing the technology themselves.

Faculty Instructional Needs

Having described their preferred teaching methods, faculty specifically stated their expectations. While most of their expectations were technology related, they did mention several other areas.

General Needs

These are old complaints, but the authors felt it important to mention since participants emphasized them in the interviews. One of the greatest needs is more time. Several participants, when asked the third question, simply said:

> Time.

Or more eloquently:

> Well, if you can put more hours in a day that would be great. I feel overwhelmed by the workload.

The need for more money was also mentioned. The participants understood the reasons for the lack of money but wanted to find additional funding sources:

> So, I think that you just have to go slower and look at more ways of funding . . . there are grants that can be written, and I think for some of the private foundations it probably doesn't take that much documentation of need.

In addition to more money, there were basic classroom needs:

> I was going to say one thing I need was the white boards cleaned and clean erasers put in. . . . Air circulation and a room that doesn't stink. Somebody that would come in and straighten out the storage within the classroom itself, and somebody to quit taking my overhead with my

> overhead book. A telephone number would be nice, you know, think about Maslow, we're back down to some very basics.

A solution to having more time would be to have more help, not temporary work study help, but permanent part-time help, shared among several departments:

> That leaves me less time to set up labs and to take care of the lab. Having an assistant to do that, a funded position to do that, would really help a lot. And I know that probably could not keep a person busy full-time, but I know that several other programs could combine efforts of one person and have a lab assistant that would help with several areas of discipline.

The Latest Software

There was little mention of needing a computer or more computers, but the participants did request the latest software. Students buy new computers complete with the latest software, but the faculty must teach from old revisions and applications:

> And just having the most up-to-date things, the most up-to-date equipment, the most up-to-date software, so we can be on the leading edge like we're supposed to be. Those will be the things that I would want to start with to create this new course.
>
> So my students, when they go buy new computers, what do they get? Computers loaded with the new software. And then they come into my classroom, and they are very frustrated because it's not compatible.

Classroom Computer Systems

When the participants have the new technology on their computers in their offices and they are able to use it to create computer presentations or interactive applications, they then need comparable technology in the classrooms and the computer labs. The participants placed this high on their list, and they were very adamant about having the equipment setup in the classroom:

> Make sure that my classroom had equipment in the room so that I could demonstrate right now. You know, you have to go find the equipment, hook it up every time, and unhook it. So, I'd like a station in front of my room that was hooked up at all times that I just had to flip a switch and demonstrate from that.
>
> A professor podium. Where the projection screen is already there, hooked up to the computer, hooked up to sound, so I don't have to spend ten minutes before and after class hooking things up and hoping that they're connected properly and work properly.

Department Computer Lab

Not only did the faculty participants want to be able to do computer demonstrations using interactive programs, they want to have the students duplicate it in class. They want classroom time in the computer lab. The real need is a department computer lab, so that they can have control over the software loaded or CD-ROMs used and scheduling the lab for classes:

> It would be really nice to have a computer lab that was available to us to have our things on it, and students could go and work and faculty could be in there mixing with them.

Faculty Technical Support

Overwhelmingly, the participants wanted support for the technology. Access to support personnel, for computer hardware support and the applications is a priority. Not only did they want support personnel to know the technology and the applications, they wanted the support personnel to have the people skills to be able to help them:

> We talked about having a technology person, and I don't think that's very likely either with no money. Having someone at least show me how to do it would be great.
>
> Having one person learn the technology and then be a resource to the faculty would be useful. Or having somebody on-staff, who actually was available by phone on a regular basis, or have phone office hours or call-in times for problems or something, would be really helpful.
>
> Having techno people who are cooperative and have some people skills.

Faculty Internet Home Page

Some of the participants wanted to design their own Web pages. However, this was a satellite campus and the faculty needed to send what they wanted on their home page to a person at the main campus who would convert it to HTML (Hypertext Markup Language) and create their home page for them. The faculty members could also create their own Web page, but it had to be put on the system by the tech person, a situation not acceptable to the participants. They wanted to produce their own Web pages and install them on their local system:

> Well, I went to an excellent, excellent computer conference this last year, and a part of that was a little three-hour post-conference that you could sign up for if you wanted to create a Web page using Netscape Navigator Gold. So I did that, and I have all the handouts from that,

and since I did that session I haven't done anything with the information that I got from that session.

Staff Development

Several study participants considered obtaining training on using the technology as one of their greatest needs. Even if they obtained the technology, they would not know how to implement it. Many participants did not have the time to learn or the classes were given in an inconvenient location or time of the day:

> Some in-services are a good idea. I think the idea of having support for different teaching ideas, staff development, . . . somehow we never seem to spend money on staff development. Without staff development it is like asking someone to come into a construction site and dig a ditch with no tools.
>
> Right now, with my workload it's very difficult to have time to learn how to do anything additional in terms of professional development for myself and actually get my job done.
>
> What they offer is really great, but it's not accessible for people on a full-time work schedule. And I know that's a challenge, but to offer all these wonderful workshops in Denver when you have to get a substitute [is not good].

The study participants want more time and money to spend on designing the courses. What they specifically want is to be able to keep up with their students and the technology that the students are purchasing. They want to use the technology in their offices and in the classroom with a minimal amount of setup time. Also, they feel like they need control over their own computer labs, at least at the department level. In order to accomplish all of this, they need support—technical and application—and support personnel with people skills. Participants displayed a great interest in receiving instruction on the new technology that fits their needs. To assist with their lack of time for training, they need to have the sessions in-house and at times that are convenient to their busy schedules.

IMPLICATIONS FOR PRACTICE

One possible limitation to this study was using only faculty volunteers. It is possible that only faculty who wanted and needed help with their technology, volunteered. In fact, two of the 36 people, who initially signed-up, declined the interview and indicated they did not need any help and were using a great deal of technology in the classroom. The authors do not know how many shared this attitude, or as

a corollary, whether there were faculty who did not want to learn technology at all. However, we feel that this does not detract from the implications of this study.

Implication One: Information Literacy

The participants preferred visiting other schools and colleges and browsing the Internet for finding and developing the course content, rather than using research journals, going to conferences or using government or college curriculum guides. Colleges wishing to assist faculty should place more emphasis on information literacy—how to find the information, how to determine whether the information is accurate, and what to do with the information. This problem of information literacy has always existed but becomes more important as the Internet is being used to a greater extent. There is also an implication here that the materials provided by the government agencies and college curriculum committees are not being used to the extent expected.

Implication Two: Lecturing

The participants saw themselves as lecturers, wanting to use multimedia technology to enhance their lecture. The authors believe that the implications of this are: the participants either did not know how to use other instructional methods, they did not want to use other methods, or they believed that the students wanted them to lecture and direct their learning. The authors believe the last possibility is the most likely. Faculty believe that the students have the expectation that the instructor is there to pass on knowledge and what better way than to lecture. This raises a question that needs answering in future research. If faculty members are trained in student-centered instructional methods, where the instructor facilitates the students' learning, will they use these methods? If not, why not? Also, if they see themselves as lecturers, they may not know about, or do not want to implement, more student-centered techniques. The administration might want to add adult learning methods courses to their staff development curriculum.

Implication Three: Basic Needs

The study participants wanted more time to accomplish their instructional ideas; more money is needed for their basic classroom functions, not necessarily technology. The authors believe that if the secondary needs of the faculty—money, storage cabinets, good administrative help, grants—are met, then the primary need—more time for

the faculty to implement their instructional wants—will also be addressed.

Implication Four: Technology Needs

Staying ahead of their students, using the technology in their offices and in the classroom with a minimal amount of setup time, control over their own computer labs, and needed support personnel that are easily accessible are the main technology needs of the participants. Put simply, they need help to incorporate the latest available technology in the classroom, but they want it to be as painless as possible. This implies that the technology should be "invisible" to the instructor, as well as the student. Administrators need to be aware that it is not adequate to just provide the technology; they need to provide help to use that technology, thus making the use of technology in the classroom as easy and as simple as a chalkboard or an overhead projector.

Implication Five: Staff Development

Expanding on the need for time, the participants want training classes that fit their time schedules and location. Administrations should recognize this need and turn the design of training over to the faculty. This may mean providing personal tutors and qualified technical support for the faculty. This also follows with the need for technical support. After training, support for implementing what they have learned in the training session is just as important as technical computer support of the hardware. There needs to be an expert close at hand, who they feel comfortable going to with questions and follow-up tutoring and mentoring.

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