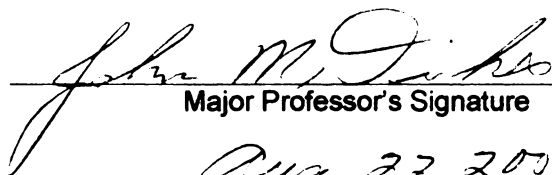This is to certify that the
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STUDENT-CENTERED LEARNING: A CASE STUDY OF A
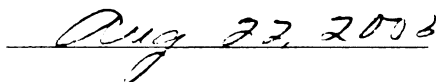SYSTEMS APPROACH TO ORGANIZATIONAL CHANGE

presented by

Christina Hee Young Dokter

has been accepted towards fulfillment
of the requirements for the

<u>   Ph.D.   </u>   degree in   <u>   Educational Administration   </u>

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FACULTY RESPONSES TO TECHNOLOGY INTEGRATION FOR
STUDENT-CENTERED LEARNING: A CASE STUDY OF A SYSTEMS APPROACH
TO ORGANIZATIONAL CHANGE

By

Christina Hee Young Dokter

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Education Administration

2006

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ABSTRACT

FACULTY RESPONSES TO TECHNOLOGY INTEGRATION FOR STUDENT-CENTERED LEARNING: A CASE STUDY OF A SYSTEMS APPROACH TO ORGANIZATIONAL CHANGE

By

Christina Hee Young Dokter

Faculty behavior towards technology integration has become a key focus in the drive towards student-centered learning in postsecondary institutions. While many institutions plan and strategize to implement technology, in most cases, a paradigm shift from teaching to learning has been difficult. In particular, faculty responses that show lasting pedagogical changes do not seem to arise from most faculty development programs. Faculty beliefs and the environment in which they work affect the way they teach.

This study looks at faculty responses at an institution that purports to have used a systems approach to technology integration for student-centered learning. The model this institution used reflects an attempt to integrate technology holistically, both in terms of faculty development and organizational change. However, this study hypothesized that even such a model will not fully facilitate the paradigm shift from teaching to learning unless the faculty responds positively to such a change. Therefore, this research studied the faculty's perceptions toward this new change model.

The study used a qualitative approach to research. With an institution-wide online survey, the study examined the extent to which the faculty members have adapted to change. Then from that survey, a cross section of faculty was chosen for further study through semi-structured interviews and observations. From the data gathered from these

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instruments as well as from document analysis, the study concludes that while the students have become empowered with student-centered learning, the faculty members feel marginalized. This de-authorization is a result of a political shift in the power structure, as well as neoliberal external policies that enabled the creation of a post-Fordist model of technology integration. This model allows shorter face-to-face contact hours between the students and the teacher. The question remains as to what the role of the faculty should be in this type of student-centered learning, and whether the role of the information and library staff is sufficient in the absence of a teacher. The study also illuminates the need to further examine educational processes that aim to make teaching and learning more efficient and cost-cutting.

DEDICATION

I dedicate this work to my sons David, Daniel, and Jonathan Dokter, who I pray

will benefit from the higher calling in the mission of higher education.

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ACKNOWLEDGEMENTS

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PROLOGUE

This is a case study of an institution in England that used a systems approach to technology integration. The college is a further education college, which is similar to community colleges in the United States. This college combined the resources once housed in computer labs, the library, and the learning resource center and created five learning centers, one for each division of the college. These learning centers are appropriately named, the Integrated Learning Centres (ILCs).

The following descriptions are from field notes taken during observations of the ILCs. Most of the observations took place in the largest of the five ILCs, the ITS Atrium ILC, which supports the Division of Service Industries. This Division includes Travel and Tourism, Sport and Leisure, Hospitality and Catering, Business and Management, and Hair and Beauty Therapy. This center was completed in 2005 and is the largest of the five ILCs. This ILC was chosen as the main site for this description, "A Day in the Life of the ILCs," because it has the latest and best equipment and students from other divisions frequent this ILC. Some information from other ILCs are included, but similar types of events can occur in this main site. The purpose of this prologue is to give the reader a background understanding of the basic functions of an ILC. The rest of the dissertation will proceed with standard chapters.

A Day in the Life of the ILCs

It is early morning, Tuesday 8 a.m. The Director of the ILCs is meeting with 5 ILC staff to talk about ILC needs and issues that occurred the past week. This is a regular weekly meeting to keep the management abreast of the happenings in the ILCs. The staff reports incidences of technology not working properly and how it was followed

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through. They also report back on any problems with instructors or students. Students bringing drinks into the ILC seems to be an ongoing issue. They decide to post signs everywhere warning students about this. On this day, the ILC opens at 9:00 a.m. On all other days, it opens at 8:30.

The ITS Atrium ILC is immaculate and modern looking. It houses two seminar rooms, each with a whiteboard. A class, which started shortly after 9 a.m., is in session with a teacher demonstrating from a whiteboard. Some 20 students are sitting at computers looking on. Some are sitting at tables, and some are sitting at individual desks on the sides of the room that has its own computers. They are working on projects individually or talking with classmates about their work. Flexibility is the goal of the ILCs and that's why there are accommodations for individual use, tutorials, seminars, group work, and teaching areas for up to 40 students.

Librarians and library clerks are seated by the entry way to provide information and to check out books to students. Across from them, a learning resource tutor sits at her desk answering students' questions about their class work. These tutors also work with faculty to provide information about resources that are available for teaching and learning in the ILCs.

In one corner of the ITS Atrium ILC, there are no computers, but three large tables provide space for group discussion or quiet study. Some students, dressed in black (Hair and Beauty students), are meeting around one of these tables with a teacher. Their teacher has booked a number of computers for these students. They are to use the computers and other resources to complete assignments that the teacher is explaining to them.

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Two other classes are seated in the larger room where corrals of computers are grouped into circular formation for students to work at, as illustrated in the photo represented as Figure 1. Approximately 109 PCs are in this main larger room. The environment is such that students are able to work in groups and talk to one another and the teacher is able to walk around and facilitate the learning.

Figure 1. **The ITS Atrium Integrated Learning Center**

A few students are seated off by themselves in carrels with PCs in an area designated for individual study. They seem to be looking at books or writing in their notebooks. In the back left side of the ILC, there are 5 small study rooms that allow small groups to meet with the door closed. A tutor (ILC staff member) walks into one of these study rooms with a blind student. In the far back of the room, there is an area designated, "Open Learning Workshop." There, several ILC tutors are seated with students, meeting with them one-on-one to provide tutoring for numeracy, literacy, computer literacy, and effective communication skills. This section consists of large

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tables and 10 computers. The Open Learning Workshop is part of a program that is funded by the government to help learners with special needs and remedial students to graduate. By having all such special needs services housed in the ILCs with the rest of the students, the staff feels that it removes the stigma once attached to going to a different place for support.

There are about eight rows of book stacks off on one side of the ILC. Against the wall, a wide variety of magazines, both popular and academic, grace a series of shelves. Another set of shelves stores a collection of videos that can be checked out. A librarian is busily searching an item for a student. Another student asks the Learning Resource Tutor, who seems to be looking something up on the computer, a question about a book.

Most students are quiet and engaged, but a few students are laughing and talking while they are working on their projects. One student is searching the Internet for Egyptian clothing styles. She had an assignment in which she had to look up ancient Egyptian clothes and then design a modern version. Off to the side of the book stacks, a lone student sits drawing a picture. Although Art and Design has its own ILC, these students come to the Atrium ILC because they "can print their work more easily and for free", according to several Art and Design students. Off in the back of the ILC, a group of male students huddle around a computer screen. The librarian walks over and disperses them. "Sometimes they don't stay on task and I have to baby sit them," he explains.

A student walks in, logs into the "student portal" that has online resources and a college virtual learning management system. "I have all my assignments and papers

uploaded here," she says. "The teachers grade the papers and like that, and keeps everything in the Virtual Learning Environment (VLE). They also store our account for printing, and also we have our library account in the VLE portal." The VLE is a learning management program similar to BlackBoard or Angel.

A faculty member asks the Technology Tutor to come and help a student. The student is trying to delete a big file and then save the rest of the files. The technology support person pulls up a chair, sits beside the student and shows her where to save the files. While this is going on, the instructor engages in small talk with another student. The Technology Tutor is responsible for running the technology in the ILCs, supporting instructors with technical support for the classes, and providing instructional technology design support.

Another student tells the student sitting beside her that she needs to find another article before she's done for the day. She seems to be working on a career exploration project. The student has a task list on a piece of paper that she keeps referring to. When asked how they like the ILCs, the majority of the students (I chatted with some 40 students in all) said that they learn a lot more than in a traditional classroom. They also prefer to get assignments (via a project sheet), receive a brief lecture and then research to complete their assignments. Quite a number of students are working independently like this student. Their teacher may be available on certain days within the ILC to help them with their independent work so that they can ask questions and get help.

A class of students and their teacher walks into the main area. The teacher explains that they need to do their assignment. Some students raise their hands. The teacher walks over to them and explains the assignment. One student seems impatient,

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reads the assignment, and raises her hand again. She logs into her VLE, checks for email and then waits for the teacher.

In another part of the ILC, a smaller group of students are holding a class session. They are using a website that shows an anatomy module and learning the various body parts.[1] Their instructor, who has a streak of green tint in her hair, walks in and asks if any of them would like to join the larger class upstairs. "Don't learn the body parts word-for-word," she reminds them. "Instead, try to make sense of it as a system."

An IT Support Tutor sits at a desk working on the computer. "I am creating a list of links for a tutor (faculty member) who will be coming in with her students," she explained. A young student leans over her desk and tells the IT Support Tutor about her computer not working. The tutor goes to the young student's computer. After a while the IT Support Tutor comes back flabbergasted. She says, "You will never guess what I found inside the disk drive."

"Some kind of food, like French fries?" I guessed.

"No, it begins with the letter C and it's not food." She said quietly.

The librarian sitting next to me covered his eyes with his hands. "Oh, no, not a condom!" he exclaimed. Other staff covered their mouths in surprise.

It is almost closing time now. This ILC closes at 9:00 p.m. on Tuesdays, but has various closing times on other days. All ILCs keep different closing and opening times so that students can always have access to at least one ILC. The students have access to the ILCs for 247 hours a week with the widest span of 63 hours. The day went on uneventfully with classes streaming in and out, students dropping in for individual work,

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[1] Such websites are part of a common set of learning objects created by the British government. Some other learning objects that students use have been created in-house.

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and teachers coming in and out of the study rooms. The study rooms are often used for students with special needs but sometimes the rooms are used for planning curriculum.

As the laughter died down in the ITS Atrium Service Industries ILC, the staff shut down all the computers, cleaned up their desks, shut down the lights, and headed for home. It has been a day full of inquiries about information, teachers needing help with Internet issues, and students needing help with their class work. Sometimes the job of the ILC staff seems rewarding, as when they get to know all the students personally by name. Other times it is like babysitting and making sure students keep on task, according to the Learning Resource Tutor.

CHAPTER 1

Purpose of the Study and Research Questions

Rapid advances in technology have contributed to the creation of the information society and the post-industrialist work environments of today. In the post-industrialist environment, many businesses compete by doing things faster and cheaper, or more efficiently. In the workplace, workers are expected to learn on their own and have self-directed learning skills, and not rely on upper management for training. Moreover, when workers receive long-term training, their new knowledge is outdated in a short period of time (Langenberg, 1999; Merriam and Caffarella, 1999). But, because of new communication technologies, workers now have access to information that will help them make decisions that only managers used to make (Brown & Duguid, 2000). This flattening of hierarchy of the ever changing environment of the workplace demands that all workers become self-directed, lifelong learners (Green, 1999; Hanna, 2000). Thus, we live in the "Knowledge Age" in which workers need to continuously update and develop their own knowledge and skills and become lifelong learners (Moore, 1998).

Business, government, and industry are increasingly turning to community colleges to respond to and address their needs for workers with knowledge and skills relevant to their needs. In 2004, President Bush proposed a $250 million program to help community colleges partner with local businesses to produce a better workforce (Mulane, 2004). To meet the demands of the workplace and the Knowledge Age, certain skills have to be incorporated into the community college curriculum (Bates, 2000; Barr & Tagg, 1995; Bateson & Bass, 1996; O'Banion, 1997). Businesses want workers who can be self-sufficient problem solvers, critical thinkers, information synthesizers, and

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personable people (Papert, 1995). Therefore, business and society encourage instructors to teach "Knowledge Age" skills, and to have students learn these skills in environments that will transform them into lifelong learners.

To address these needs, community colleges are trying to create curricula that are learning and student-centered. A call for a paradigm shift (Barr & Tagg, 1995; Bateson & Bass, 1996) from teaching to learning targets a new era of student-centered and self-directed learning in colleges. In the old paradigm, colleges existed to provide instruction; in the new paradigm, colleges exist to produce learning. The emphasis is now more on the paradigm shift to constructivist approaches of teaching that are student-centered, away from behaviorist approaches that are teacher-centered.

With such rhetoric, community colleges are promoting learner-centered ways of instruction through the concept of a learning college (O'Banion, 1997). At the center of this concept is the use of educational technology to promote learner-centered ways of instruction. The goal is to have the student become the center of learning with technology as a means to facilitate such learning. Educational technologists note that networked technology provides the tools to do this with communication and discussion mediums between students and instructors and between students themselves (Bates, 2000; Jonassen, Peck, & Wilson, 1999; O'Banion, 1997; Sandholtz, Ringstaff, & Dwyer, 1997). Other digital tools, such as self-paced learning modules which track student's progress or learning objects that enable individualized instruction can also facilitate self-directed learning and learner-centered instruction.

With such hope, community colleges are increasingly turning to educational technology as a means of helping to foster and facilitate organizational change and

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transformation for the purpose of meeting the needs of society and the need to become a

learning college. Literature is replete with calls for transformation of higher education,

highlighted by works such as Dolence and Norris, (1995) and Hooker, (1997), and

technology is promoted as the means to do so.

However, although universities and colleges are change agents for society, as

organizations, they are reluctant and difficult to change (Kezar, 2001; Schmidt and

Olcott, 2000). Higher-education institutions tend to be loosely coupled (Clark, 1998),

and often result in a chaotic arrangement of faculty and administrators who vie for power

in a manner reminiscent of an organized anarchy (Baldridge, 2000). Further exacerbating

this innate characteristic, the pressures of the "Knowledge Age" create chaotic

environments that are difficult to manage (Armstrong, Thompson, & Brown,1997;

Birnbaum, 2000; Daniel, 1997; Green, 1997; Leslie & Fretwell, 1996; Lucas, 1996,

2000).

The Research Problem

In such an environment, for many institutions, technology implementation has

become part of the problem of change rather than the solution. For example, while

studies frequently cite faculty response as an important factor in technology

implementations (Zhao & Frank, 2003), literature about faculty adoption of technology

points to the difficulties and complexities of bringing about change in faculty behavior.

In most colleges, for example, technology has not affected pedagogy in effective ways

(Caffarella & Zinn, 1999; Mayes, 2001; Parker, 1997) and faculty seldom change their

beliefs about teaching and learning with technology (Dirkx and Taylor, 2001 in Imel,

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Rather than engaging in a paradigm shift of learning centeredness, most technology programs are mired in traditional structures and pedagogy (Grossman, 1989; Dillon & Walsh, 1992) that only add expense and frustrated faculty. While learning centered approaches require certain structures and processes, these structures and processes seem contrary to the existing traditional cultures and structures. Change in structure to foster faculty transformation, for example, needs a systems approach that does not build simply onto the existing traditional approach to learning, and existing organizational infrastructures. Furthermore, we do not know how faculty respond to such restructuring for learning centered instruction.

Moreover, many community colleges lack a systematic framework or theoretical guidance in how to effectively use technology to facilitate the paradigm shift to a learning college (O'Banion, 1997; 1999). Literature reveals that the organizational structures such as administrative structures, classroom structures and faculty development structures need to be transformed in order to transform the institution into a learning college. A systems approach that is integrated should foster environments that are suitable for both faculty and staff to work together towards a learner centered environment. However, we have yet to know what it means to be systems oriented and integrated, and we have yet to see how faculty respond to such approaches. Such research will provide answers to the search for integrated approaches to organizational change and faculty development for the sake of creating a learning college.

The purpose of this study is to examine the faculty response to a unique, integrated model of technology implementation for learning centered instruction at a college in Great Britain. This model, which is systems oriented, has been touted as

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successful with increased access and retention of students. However, we do not know how the institution facilitated faculty change and what the faculty response was. By studying such a model, this case study hopes to examine one community college that utilized a systematic, integrated approach to bring about a learning college. Examining faculty receptivity in such an environment may reveal new answers about teacher practice.

Researchers and policy makers have studied faculty response by studying training methods, technology adoption issues, or barriers to technology use. The focus is either on individual faculty or the type of technology, with the neglect of the need for changing infrastructure and culture. So, while many studies are about organizational change or faculty development, the integration of the two is scant. Moreover, although researchers say that the context of the changing environment is a key element with studies about educational technology (Cuban, 1993; Fullan, 1999; Laferriere, 1997; Lewis, Smith & Massey, 1999), very few studies take a holistic approach to research and fail to account for variables such as faculty beliefs, motivation, the influence of peers and political pressure (Zhao & Frank, 2003) within an environmental context.

The reason for such absence is perhaps because the common approach to technology implementation is often scattered and mechanistic, consisting of piecemeal programs (Bates, 2000; Dillon & Walsh, 1992; O'Banion, 1997). Therefore studies about successful transformation with technology are scant. That is perhaps why literature about using technology to foster learning-centered instruction increasingly calls for integrated approaches to both changes in organizational infrastructure and faculty development

(Baldwin, 1998; Dillon & Walsh, 1992; Dirkx et al. 2004). This study hopes to fill the gap in absence of such studies.

Background and Rationale

Technology has become a centerpiece of the ways community colleges implement learner-centered instruction. Reasons abound for this trajectory toward learner-centeredness with technology. As community colleges seek activities propitious for access and retention, they see that promoting lifelong learning skills, such as self-directed learning and critical thinking (Barr & Tagg, 1995; Holms, 1999) within technology-based curriculum and information-rich environments tend to retain students and motivate them to learn. Institutions also realize that technology is a necessary, competitive element of globalization and therefore a necessary element of job training (Hannah, 2000). With enthusiasm for the new and novel, administrators also see that computer technology can bring efficiency to teaching and learning (O'Banion, 1997).

Most importantly, technology is valued as a tool to aid in the paradigm shift from teacher-centered instruction to learner-centered instruction (O'Banion, 1997; Van Dusen, 1997). One of the key ways technology plays out this role is by providing new ways to learn, communicate, collaborate and find information (Dusick, 1998). Information communications technology through the World Wide Web can enable students to research, integrate, and synthesize information (Fulton, 1998). Technology enthusiasts also point out ways that multi-media can engage students and provide multiple ways of learning within environments suitable to individually paced learning (Bates, 2000; Hannah, 2000, pp. 46-47). Indeed computerized online modules that provide immediate feedback, track student progress, and provide innovative uses of networked environments

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can foster cognition compatible with higher order thinking skills and help facilitate self-directed, life-long learning skills in environments akin to the workplace of the 21st century (Bates, 2000; Bateson & Bass, 1996; Fulton, 1998; O'Banion, 1997).

Issues with Technology Implementation

While these positive visions of technology use abound, administrators face many issues that impede the successful implementation of educational technology for the learning college. Couched within broader societal changes, issues such as the need to remain competitive in a global economy and the corresponding need to deal with rising costs (Eckel & Kazar, 2003; Sporn, 1999) obstruct progress toward using technology for the immediate goals of creating lifelong learners and providing increased access to the burgeoning numbers of students. Funding cuts force administrators to focus on high-cost factors, such as faculty salary and lack of building space (Brown and Gamber, 2002). As a result administrators are not able to provide adequate professional development, and some instructors blame technology for lack of funding elsewhere. Furthermore, technology implementation must satisfy public demand for quality learning (Daniel, 1997; Hooker, 1997), and retain a higher proportion of their students (Altbach et al., 1999; O'Banion, 1997; Schneider and Shoenberg, 2005).

So, while demands for quality learning can justify the need for technology purchase, the cost of technology implementation usually outruns the pace of budget cuts. All these create tensions within the academy as the institution tries to shift from its deeply embedded traditional culture to meet these changing needs.

Within the context of such complex issues, particularly in the United States, many higher education institutions have implemented technology based largely on fragmented

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approaches (Bates, 2000; Dillon & Walsh, 1992; O'Banion, 1997). Due to changing

societal pressures, technology tends to be implemented more in reactive ways rather than

in proactive ways. Sometimes for reasons of gaining the competitive edge, and

sometimes for lack of experience, institutions tend to apply technology for innovation's

sake and not as an innovator for learning (Olcott & Schmidt, 2000). For example, when

institutions began to see the benefits of distance education, some administrators reacted

hurriedly and placed all courses online, regardless of the subject matter. The result is that

technology is largely applied to existing practice and as appendages to traditional,

teacher-centered methods of instructional delivery (Armstrong, Thompson & Brown,

1997; Daniel, 1997). A more proactive approach would require systematic, evolutionary

processes of change.

As institutions have tried to improve technology implementation, they have

looked at approaches of using technology as a tool of learning. In most cases, faculty

training has become a key focus. Faculty adoption of technology has been slow, showing

continuing gaps between faculty who are early adopters and those who are laggards

(Rogers, 1995). While faculty development aims to produce continuous behavior that

rises from change in beliefs, most faculty members do not demonstrate a change in their

basic assumptions when teaching with technology (Murray, 2002; O'Banion, 1997;

Olcott & Schmidt, 2000; Spicer et al., 2004; Zhao & Cziko, 2001). Yet, researchers cite

teachers' beliefs, mainly positive attitudes toward technology as a determining factor of

technology use in the classroom (Hanna, 2000;Zhao & Cziko, 2001). Other perceptions

of faculty include pedagogical beliefs and epistemic beliefs (Becker, 2000a, 2000b;

Dirkx, Kielbaso, & Smith, 2004; Zhao & Cziko, 2001).

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Thus, there has been relatively little evidence of success with faculty development

for becoming learner centered with technology. Faculty development methods also

show a tendency toward fragmented approaches to implementation. O'Banion (1999) for

example, says institutions have tended to blindly implement technology with distance

education, not building on existing innovations as a connection between the old and the

new. Blind implementations tend to be "stand-alone" innovations, such as one-time

faculty development workshops that were created as "spontaneous reforming strategies"

(p. 15). Such implementations do not show a holistic, unified institutional approach

toward becoming a learning college.

The Need for Systems Thinking with Technology

Organizational observers say there is often a need for invention to support

invention in order for innovation to take effect (Brown and Duguid, 2000). For

technology to become innovation in community colleges, administrators have to invent

new strategies and structures that support learning with technology. More specifically,

they need to support faculty in ways that challenge the many barriers to technology

adoption such as change in faculty identity (Baldwin, 1998), and change in

epistemological beliefs (Dirkx et al., 2004). Additionally, they need to create new

incentives and rewards, and influence faculty perceptions so that there is more positive

than negative perceptions about computer use (Zhao & Frank, 2003). Moreover, people's

abilities to adopt a new invention depend on supportive structures and ecologies that

"rely on a balance between the formal and informal, the spontaneity of practice and the

structure of the organization" (Brown & Duguid, 2000, p. 172).

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A systems approach can unify these elements in an integrated way. Ideally, such an approach will engineer an environment that provides ongoing professional development, learning-centered structures, accessible resources, but at the same time mitigate cost overruns. For example, in a major literature review about faculty and technology, Dillon and Walsh (1992, p. 18) noted the need for a systems approach that supports both faculty development and organizational development (or change). They state that while studies have concentrated mostly on training faculty, only an environment that is supportive of change will bring about transformation. Citing Grossman (1989), Dillon and Walsh (1992) point out that technology based learning, such as distance education, has been integrated into traditional institutional settings, without changing the traditional culture, but by "perpetuating a culture that is out of touch with the driving force of higher education" (p. 282). Olcott and Wright (1995) wrote in response to this issue saying that an institutional support framework for training and rewarding faculty was needed. They suggested that faculty take more of a leadership role and that administrators provide support and cultural change for technology adoption. Today educators are still calling for such approaches that produce a holistic combination of organizational change and professional development (Dirkx et al., 2004). That is, professional development approaches that are isolated from organizational issues and stand alone as isolated training sessions tend to be ineffective. A systems approach would integrate the way the institution changes with the needs of faculty development.

On the other hand, even when such systemic, integrated environments are created, administrators still have to deal with faculty buy-in. The faculty may perceive new contradictions and tensions that affect them in ways that administrators did not anticipate.

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Thus, though an institution can restructure and successfully implement technology, faculty response is often a key variable in the success of the program. Without faculty support, even successfully planned technology integration strategies face challenges in its implementation.

In summary, adding technology into learning means evolutionary institutional change that requires a new structural framework (Moore, 1998). However, leaders lack a clear model for integrating technology into this new structural framework. They are looking for a bridge between innovative technologies, today's demands of the changing environments, and academic goals. The inter-relationship of these issues is at the forefront of systems thinking about technology implementation. However, little research exists about how these conflicting forces should be negotiated so that faculty buy-in can be accomplished, and about how faculty is responding to new, learning centered, systems-based models.

The British Institution Case Study

American post-secondary educators need new structures of educational institutions that meld the changing forces with its original goals of producing productive citizens (O'Banion, 1997). Such calls for reforms mean a need for deeper understanding of the tensions and struggles inherent within technology implementation in terms of an organizational change approach.

While many institutions in America have tended to acquire distanced, online learning technology for their community college institutions, institutions in Great Britain have been, in general, slow to adopt new technology (Walker, 2004) taking a "wait-and-see" attitude (Collier, 2001). Borrowing from local success such as the Open University

and other successful institutions in Great Britain, a further education college in this case study is engaged in innovative uses of educational technology. It also has innovative restructuring of its departments around student-centered learning.

A further education college accommodates students from grades 11 to 14 and provides continuing education for high school leavers and adult learners. According to 1998-99 data put out by FEFC, 2000, there are 3.8 million students in the further education sector. They range from age 15-16 to 80s. The work of further education is ill defined because they serve a wide population and diverse needs.

What stands out about the use of educational technology at this college is that they have achieved these outcomes while containing costs. Initial interviews revealed that this college may be a learning college with a holistic approach to technology integration and faculty development. By studying their model from the perspective of faculty, I scrutinize the model to obtain a deeper understanding of the change process. Such understandings reveal issues administrators must deal with that how-to manuals and text books seldom address.

Research Questions

This study seeks to study the faculty responses to a systems approach of technology integration for student-centered learning. Specifically, it addresses the following questions:

- What actions did the faculty take in response to the Integrated Learning Centers?

- What beliefs do the faculty members hold about the Integrated Learning Centers?

- What are the tensions evident in their responses to the model?

Key Terms

The key terms below have been defined for words which hold a variety of

meanings for the reader, and for which the literature holds no one definition.

For the purposes of this paper, educational "technology implementation" is the

process of acquiring and utilizing technology for the sake of teaching and learning. This

definition differs from "technology integration" which for the purpose of this study refers

to the rearranging of organizational structure and activities for the purpose of fulfilling

the mission of an organization with technology.

The organizational structure includes tangibles such as physical building space,

arrangements of environments, as well as intangibles such as policies, mission

statements, and the ways work tasks are arranged.

The educational technology in this study includes advanced technologies such as:

computers, networks that join them, handheld devices, printers, digital devices such as

CD ROMs and DVDs, videos, cameras, software and content applications, and

communications media such as the Internet and videoconferencing technologies.

Faculty development is commonly defined as activities and programs that are

designed to improve faculty instruction. This study defines faculty development in a

more holistic term proposed by (Centra, 1989): personal (interpersonal skills, career

development, and life planning issues); instructional (course design and development,

instructional technology); organizational (ways to improve the institutional environment

to better support teaching); and professional (ways to support faculty members so that

they fulfill their multiple roles of teaching, research, and service).

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Student-centered learning and learning-centered instruction are often used inter-changeably. It is largely based on constructivist orientations to teaching and learning. Student-centered learning recognizes the importance of students' perspectives, prior understandings, context, and the social aspects of learning. As an approach to instruction, it is the opposite of teacher-centered instruction in which the teacher lectures. Rather, the key is that the student is engaged in active learning experiences. Allowing opportunities for critical thinking, solving open-ended problems, and gathering and synthesizing information are common forms of student-centered learning. Often the students learn independently and from one another.

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CHAPTER 2

Literature Review

"We are well aware that information technology by itself will not usher in a new model of education, but information technology in the hands of creative faculty members, and visionary administrators has more potential as a catalyst for transforming the schools than any other innovation in this century."
(Terry O'Banion, 1996, p. 6)

The purpose of my study is to examine faculty responses to a systems approach that is centered on student learning. In this chapter, I will develop a rationale for why looking at such a response is important. In developing this rationale, I will first give the context of educational technology implementations in postsecondary education, and then I will distinguish between two different ways that technology is instituted into colleges. The literature review will then explore the importance of a systems approach to integrating technology, and then explore faculty development issues, with faculty as part of a system. Finally, I will end with a theoretical framework for the study.

Introduction

Around the world, institutions are adopting and using various forms of information technologies in their curriculum and teaching. Technology has therefore vastly influenced post-secondary institutions (Bates, 2000; Van Dusen, 1997). In the United States, information communication technologies (ICTs) have become synonymous with distanced further education. For example, according to a survey conducted through the National Center for Education Statistics (2001), in 2000–2001, 90 percent of public 2-year and 89 percent of public 4-year institutions offered distance education courses. Such popularity and demand has postsecondary institutions offering about 127,400 distance education courses in 2001-02 with about 3.1 million enrollments in distance education (Waits & Lewis, 2003). Within distanced delivery types, there is a

growing presence of online learning (ACE, 1996). Online learning generally brings in revenue from access to non-traditional, frequently older students, and this population provides the fuel for more dollars. In the fall of 2003, according to the Sloan Consortium Survey of Online Education in the United States, 1,971,391 students enrolled in at least one online course. Of the groups that take courses online, the largest population is in the community college category.

Such growth of ICT presence did not happen by chance but by the culmination of many factors that demanded change. Of the many factors, three main causes include: 1) the need to provide access to burgeoning numbers of students who bring a diverse student body 2) budget constraints in the midst of the need to stay competitive with other educational institutions 3) demands of the changing forces of globalization, especially with the need for perpetual learning in the Knowledge Age (Dolence & Norris, 1995).

Diverse Students

Post secondary institutions recognize that maximizing access to education creates a better society and better return on educational investments to society (Arnov & Torres, 2003, p. 5). Therefore, institutions try to meet the growing numbers of students who demand higher education with ICT that enables "anytime-anywhere" learning through distanced delivery of education. To this end, many institutions' educational programs attempt to attract students who traditionally would not have access to higher education. Approximately 10.4 million community college students at 1,171 community colleges make up 44 percent of the nation's undergraduate population. Community colleges hold an important place in higher education, awarding more than 450,000 associate degrees annually (Mulane, 2004). Adult learners are the fastest-growing population in higher

education. While the number of traditional students increased only by about 40% between 1970 and 2000, the number of older students have increased 170% (Aslanian, 2001; "Lifelong," 2002).

Additionally, because these students bring a diverse student population (Green, 1997), quality and retention is a key issue. To retain students, institutions want to keep them motivated to learn. Offering multiple learning options in multiple learning styles can do this. Technology such as multimedia is touted as a tool to meet diverse students' needs, and keep them motivated to learn. Recent studies do provide some backbone to such assumptions. For example, when multimedia is designed using cognitive theory, deep learning is possible (Mayer, 2002). Examples include presenting animation simultaneously with voice-over narration and presenting such modules with interactivity and signaling. Simulations in science and math education enable understandings that were difficult and time-consuming without the aid of technology.

Technology therefore is moving into even face-to-face classrooms. The so called Smart Classrooms come equipped with networked technologies, projection devices and software, at a cost of approximately $3000 to $50,000 per classroom (Andrews et al., 1999).

Competition and Cost

Institutions are also affected by budget constraints in the midst of the need to stay competitive. Streamlined universities, such as the University of Phoenix, have risen almost overnight as a stark reality and wake-up call to traditional universities and colleges to change. So, part of the drive for competition is the increasing numbers of students who are shopping for various learning institutions. In such a pressured

environment, administrators tend to use technology to gain a competitive edge (Eckel & Kezar, 2003). However, at the same time, colleges also must reconcile budget cuts. Thus, cost-effectiveness is another issue that prompts administrators to pursue technology (Gilbert, 1996).

Interestingly, technology is also touted as a tool for reducing costs (Twigg and Hetrick, 1997; Twigg, 1996), and enhancing educational quality (Daniel, 1997). For example, to accommodate the growing numbers of students, but faced with budget cuts and shortage of space, blended learning environments are becoming more common. Here, institutions offer courses with half class-seat time, and half online time. For example, University of Central Florida (UCF) strategized as early as 1996 to develop blended as well as fully online courses to accommodate a growing population of students and a shortage of classrooms (Hartman & Truman-Davis, 2001).

The Knowledge Age

The third major reason for technology growth in post secondary institutions is globalization and the advent of the "Knowledge Age." This new age, fueled by ICTs, has created a society in which information is a key to survival. We no longer fashion our work lives around the production of goods, but rather around the acquisition of knowledge (Hooker, 1997; Irvine, 2001) and compete on a global scale. To compete in this new economy of the Knowledge Age, industry has had to trim its excess and do things faster and cheaper. Workers of this post-industrialist age have to keep learning new information faster and become self-directed in this skill. No longer do managers have the time or money to train workers; workers must have the lifelong learning skills to acquire information on their own (Daniel, 1997; Garrison & Anderson, 2003; Green,

1999; Hanna, 2000; Irvine, 2001). Therefore post secondary institutions have accommodated this need by providing ICTs in their learning environments to prepare students for the work world of the Knowledge Age. Some 40 percent of colleges have instituted mandatory computer literacy requirements and about 80 percent of campuses have or are planning to implement a campus web portal (Campus Computing Project, 2004).

While educational technology presents itself as a solution to these changing needs of institutions, in many institutions, technology has been part of the problem of change, rather than the solution to the change process (Al-Bataineh & Brooks, 2003; Zhao & Frank, 2003). As institutions implement technology into their organizations, many conflicting issues rise to the surface and interact. For example, budget cuts could mean less technology upgrades; diverse and growing numbers of students could mean overworked faculty; and the need to keep up with the "Knowledge Age" means tensions arise with the need to change pedagogy.

It is in the midst of such a scenario that technology use in post-secondary institutions has been marked by two broad levels of adoption and institutional change: technology implementation and technology integration.

The Implementation of Technology in Institutions

Technology implementation is defined as the purchase of technology for situating them within learning environments. Although many institutions have improved their technology plans, for the most part technology implementation has been approached as a "quick fix," without careful strategizing (Carr, Jonassen, Litzinger, and Marra, 1998, p.14). Such methods often mean computers sit in empty labs; faculty lack the training

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and support needed to carry out learning with technology; and administrators leave the

work of educational technology to technology professionals who lack pedagogical

knowledge. Thus far such technology implementations have been criticized for

piecemeal approaches to technology adoption highlighted by: 1) technology that is

equated with innovation and competition, and 2) technology that is approached for

efficiency, but is not cost effective. These types of approaches fail to produce lasting and

effective institutional transformation.

Technology as Innovation

Literature criticizing institutional use of educational technology tends to blame

administrators for blind integration in the wake of a rush to stay competitive in a global

economy. Set within an environment of changing chaos, literature about educational

technology shows that institutions have largely approached technology implementation in

a piecemeal fashion, rather than with systemic, institution-wide reforms that integrate

both internal and external issues. For example, an institution may purchase technology,

place them in classrooms and offer one-time faculty training. So, although the concept of

using technology as a tool of learning was touted as showing increases in academic gains

(Al-Bataineh and Brooks, 2003; Newman & Scurry, 2001), too often technology is

adopted for innovation sake, and not integrated around innovative uses for learning

(Bromley, 1998; Moore and Kearsley, 1996; Olcott, 1997b). In the meantime, both

internal and external pressures are mounting for administrators to become accountable

about technology purchases (Hawkins, Rudy, & Madson, 2002). Therefore, quality

control and retention have become buzzwords around technology in postsecondary

institutions.

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However, administrators have had a difficult time delivering quality with technology. Although integrating technology requires leadership knowledgeable about technology and the administrative artistry involved in working with workers from variegated skill sets, most administrators do not have the technical expertise, or the time to learn about educational technology. Thus, administrators leave the burden of educational application to technology professionals who have little pedagogical expertise (Cuban, 2001; Neal, 1998). Often the result is technology used for innovation sake, without dealing with the cultural and pedagogical implications of such changes (Bowers, 2004). Furthermore, training sessions for faculty focus on technology with little attention to pedagogy. Thus, in most cases, neither the learning has improved, nor do we see cost-effective forms of technology use. In the end, traditional forms of teacher-centered delivery remain.

The Cost Factor

One of the reasons for the failure of effective technology implementations is that the diffusion of technology to facilitate access often meets with budget and resource constraints (Peterson & Dill, 1997; Leslie & Fretwell, 1996). The downturn in the economy has created budget cuts and reductions in private funding. Budget restraints have translated into technology resistance on one hand, and on the other hand, a frenzy to bring in new, "better" technology in order to compete for dollars with other institutions (Hargreaves, 2003).

Indeed, dealing with funding issues has been the number one priority for administrators, according to a roundup survey of campus technology leaders by Educause (Spicer et al., 2004). Those who said technology would save time and money were

disappointed when they discovered that the cost of administering technology far outran

the returns (Green and Gilbert, 1995 p. 10; O'Banion, 1997, p. 69). Faculty complained

often about the enormous amounts of time required to teach with technology and the lack

of support structures needed to ameliorate the problem (Baldwin, 1998). To make

matters worse, in some institutions budget allocations for computer hardware and

software are not ongoing, but come from one-time budget allocations. The benefits from

the use of computers are negated by fugacious, outdated technology. Suggestions to

overcome this type of an environment seem daunting:

> "In such an environment, the challenge is not so much lobbying to increase IT
> budgets overall, as distributing flat or shrinking resources creatively, managing
> more complex infrastructures, and prioritizing among rising appetites for
> bandwidth and academic and administrative functionality," (Spicer et al., 2004, P.
> 1).

In summary, all of the issues surrounding technology implementation seem to

suggest that technology programs approached in a fragmented, piecemeal way become

hampered in issues that challenge higher education institutions today. The challenge then

seems to be to look toward institution-wide restructuring that integrate both internal and

external needs.

The Integration of Technology into Institutions

Technology integration refers to the rearranging of the institutional infrastructure

and activities for the purpose of fulfilling the mission of an organization with technology.

This is different from technology implementation which refers to the purchase of

computers and situating them in classrooms or labs   Technology integration

encompasses larger ideas, such as the infrastructures and methods that allow people to

adopt technology and promote student learning. This entails the social construction of

technology use (Brown & Duguid, 1996, 2000) which is a much broader view of technology integration than the offering a few training sessions. Indeed, throughout literature, calls for restructuring most often include integrating ideas of teamwork and socializing the learning environment (Thite, 2004, p. 25) for the sake of teaching and learning with technology, but under a unified reporting structure (Gellman-Danley & Teague, 1998, p. 18-19). The leadership, the culture and the work structure affect how an institution should restructure from its traditional ways of operating. A leader has to be aware of all implications of the rapidly changing environment and engineer change strategies.

Technology integration rose out of literature that criticized early mishaps with technology implementations. Technology implementation failed to produce lasting change in faculty that led to change in pedagogy. Pedagogy had to change from teachers lecturing to a more constructivist oriented teaching that is student-centered. This type of learning places students at the center of learning, often in environments in which a variety of resources are available for research around a central project or question (Jonassen, 1999). Learning activities are framed around this central question or project and students can work with others around this common goal. The idea is to help students learn to solve problems in ill-structured environments in which multiple answers are present and students have to think critically to choose from options.

Researchers therefore studied faculty adoption of technology around these pedagogical concepts. The small sample of successful integration strategies mentioned below show that these institutions used multiple levels of infrastructure change while incorporating findings from such studies.

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Examples of Technology Integration

University of Central Florida (UCF) structured their program around web-based self-paced study materials and provided "just-in-time" training. They also restructured the organization to add faculty development support structures by creating various educational support centers under the direction of key administrative leadership. Incentives include stipends for faculty who attend workshops and Faculty Institutes. Other incentives include providing research support for innovative courses that faculty can teach and then evaluate for research publications.

Other post secondary institutions such as Bellevue Community College (Hutchison, 2001), and Virginia Tech (Moore, 2001) established funding mechanisms for faculty incentives, created new centers for faculty training, and most importantly created a new culture for innovating pedagogy. In conclusion, these and other successful institutions seem to have integrated the following elements into their organizational change:

1) "just-in-time" training of faculty, which refers to giving training as the faculty is in the process of preparing to create lessons for the class

2) community-of-learning structures, which refers to providing collaborative situations for faculty to share ideas.

3) faculty incentives and innovation rewards for faculty and staff, which often refers to monetary rewards, but can include non-monetary recognition

4) on-going support mechanisms for faculty, which refers to having support staff that is on-call as the faculty need help. Other times, it can be web-based or other resources that faculty can refer back to for help.

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These few examples of successful technology integration show that integrated approaches lead to transformational change. These institutions did not simply purchase technology and expect faculty to use them in their teaching. They built in infrastructures and policies to bring about change for the sake of the goals of the institution—improving students' learning.

Why Restructuring for Technology Integration is Important

Literature has shown that technology is more than a tool of learning. For example, McLuhan, (in Griffin & Park, 2005), observed that technology changes our culture, communication processes, and in turn has the power to shape and transform our lives as we in turn have the power to transform its usage.

Technology changes the nature of work. As institutions use technology, technology itself restructures the institution by blurring the lines of work between organizational units (Gellman-Danley & Teague, 1998). As this happens, issues arise about divisions of power, misunderstandings surface about other people's changing needs. And, there is the ever present need to control cost. Faculty lives change, not only because of technology, but because faculty are no longer the center of knowledge (Olcott & Schmidt, 2000 p. 263); change in policies, change in roles, new approaches to teaching and changes in evaluation of faculty performance all impinge on faculty identity and work life.

Noting such tensions, researchers say that the organizational environment has to restructure from traditional forms of educating to new, non-traditional structures that enable students to learn (Baldwin, 1998; Dillon & Walsh, 1992; Goodman, 2002; Grossman, 1989). Integration of technology implies that the institutions unify under a collective understanding, changing its very culture by bringing together the formerly

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disparate units of the institution, and thereby expanding the awareness of the roles of all

staff (Gellman-Danley & Teague, 1998; Ehrmann, 1988).

The goal of the institutions is to shift to a learning paradigm. The "Knowledge Age" and

the demand for better workers who know how to be self-directed has forced educational

institutions to fit into a paradigm shift of colleges becoming learning centered (Newman,

1997). In order to become lifelong learners, students have to learn through active

learning, and by taking ownership of their learning. As mentioned above, educators have

called for learner-centered instruction that promotes skills such as information gathering

and problem solving. Such a shift has community colleges calling themselves the

"learning college" in which technology has become a tool to facilitate a learning centered

college.

In order to become a learning college, the entire institution and its culture has to

shift from a teaching to a learning-centered paradigm (Barr & Tagg, 1995; Bateson,

1996). Furthermore, this restructuring and integrating implies that such an environment

has to foster faculty development with "a dramatic restructuring of faculty roles," (Dillon

& Walsh, 1992, p. 282). In the old paradigm, the focus has been on what the teacher

knows, with lecturing as the key method of instruction; in the new paradigm, the

curriculum is based on what the student can learn, with active learning as the key method

of instruction. The faculty has to focus curriculum more on the process of learning,

rather than the content (Dirkx & Prenger, 1997). This also requires integration of

knowledge across disciplines. No longer focused just on faculty, the staff of the entire

institution is called upon to contribute in the facilitation of a learning college.

Technology Integration as a Systems Approach

We have seen from successful examples, and from the reasons for the need for integration of technology that technology integration implies more than fragmented, piecemeal approaches to technology. External pressures seem to imply a change in the internal culture that adjusts and diversifies to meet the external changing environments (Morgan, 1986). Moreover, technology integration seems to imply inter-connectedness and inter-relatedness of faculty and staff. Researchers have found that knowledge of the technology by itself does not translate into effective technology use, but that the ecological psychology and the way people interact within a given environment determines the learning success (Brown and Duguid, 1996, 2000). Individual's learning seems to encompass not only change in knowledge structure, but skills, attitudes, values and habits, consciousness-raising, persuasion (Bolman and Deal, 1991) and daily activity in relation to the surrounding organizational environment. Individuals should engage in systems thinking, thereby creating a "shift from seeing parts to seeing wholes, from seeing people as helpless reactors to seeing them as active participants in shaping their reality, from reacting to the present to creating the future" (Senge, 1990, p. 69).

According to Senge, (2000), "a system is any perceived whole whose elements "hang together" because they continually affect each other over time." Social systems such as educational institutions, respond over time to external demands as interdependent, complex systems (Morgan, 1986). A systems approach with technology not only means that institutions organize technology around its mission, but that the entire institutional infrastructure and culture shifts for that end. It implies a holistic, integrated approach. The institution as a whole creates a learning organization with

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feedback mechanisms for the sake of promoting learning. For example, successful transformation at UCF is credited to strong planning and administrative support, creation of learning communities, using technology to provide learners support, continuous assessment and faculty participation of professional societies (Hartman and Truman-Davis, 2001, p. 58).

The evolution of studies about faculty adoption of technology concurs with such integration methods. All of the following theoretical developments have a common element: a systems approach to technology integration.

Rogers (1995), whose work is most often cited in terms of general views about adoption of innovation, noted the differing stages of individual adoption and levels of receptivity towards technology. Rogers approached technology innovation from an individual diffusion view, and others followed him with a more systemic view of technology diffusion (Surry, 1997) that is less linear and causal in its approach (Schein, 1996). This body of literature is growing and is known as macro-level IT diffusion theory (Surry, 1997). Followers of this theory tend to approach technology integration from a concept of adoption analysis, accounting for the physical, structural factors as well as the support system that exists within an organization (Surry, Ensminger, & Jones, 2005; Farquhar and Surry, 1994).

All of these findings and evolutions of adoption theories lead to the importance of looking at the organization as a whole with a systems approach.

Faculty and Their Importance as Part of a System

We know that technology changes the nature of work, and faculty lives are changing with technology integration (Baldwin, 1998); we also know that a paradigm

shift has to occur from teaching to learning (Barr & Tagg, 1995; Bateson, 1996). So, for

the latter to happen, faculty have to change their beliefs and behaviors to become more

learning centered. However educational institutions are embedded in the traditional

culture of the past which by nature is very difficult to break free from (Olcott & Schmidt,

2000; Rowley, Lujan & Dolence, 1998). In this culture, the faculty are the center of

teaching, the center of new knowledge production, and the center of rising costs as

institutions try to keep their salary up with the cost of living. The former culture that

revered faculty as the status quo of the institution may no longer be suitable for integrated

ways of working towards a learning college. Faculty have to depend on other staff, and

work in teams to design effective technology based learning curriculum.

So, one of the important components of the system in an institution is the faculty.

Unless faculty change to meet these changing needs of society, institutions will not

transform (Epper & Bates, 2001). Both the examples of successful integration and this

literature review reveal the importance of integrating faculty development into the system

of organizational change.

Literature also shows that faculty adoption of technology involves approaching

technology integration holistically with organizational change. Reasons abound for such

thinking. Institutions find that while faculty are the key to bringing about pedagogical

changes, merely training faculty to use technology only makes them need more support

(Bates, 2001). Many faculty tend to shun technology and do not respond in ways that

result in learning-centered ways of instruction (Dirkx & Taylor, 2001, in Imel, 2001;

Mayes, 2001). Faculty development programs do not seem to produce lasting changes.

In fact, studies about faculty adoption have shown that even after faculty members decide

to adopt a certain technology, some faculty stop using it (Rogers, 1995). Others

recognize this factor saying that for an innovation to be fully adopted, faculty

development has to be ongoing (Surry, Ensminger & Jones, 2005).

Studies have examined barriers and reasons for faculty use of technology. After

looking at faculty response for over 20 years as a professor, researcher and consultant,

Bates (2001) concludes that one of the chief barriers to faculty use of technology is the

fear of the unknown, fear of job or tenure loss, fear of losing personal contact with

students, and fear of more time required for teaching. Another barrier is the lack of

knowledge of proper uses of computers in teaching (Wiske et al., 1988) which creates a

fear of failure in front of students (Albright, 1996; Armstrong, 1996). To mitigate such

fears, supporting faculty is one of the key ingredients to successful integration (Lewis &

Orton, 2000; Nantz & Lundgren, 1998; Olcott & Wright, 1995; Wiske, 1988; Wood &

Thompson, 1993).

From looking at best-practice institutions, Bates (2001) concludes that faculty

training sessions alone do not bring about significant change for technology use.

Furthermore, relying just on the faculty development office for faculty training did not

seem to work well. Additionally, successful organizations in his study did not look at

technology as the main ingredient for faculty development, but rather centered their

change strategies on transforming teaching and learning. Bates states that "faculty

development in instructional technology must be looked at in the context of the

institution as a whole," (p. 150). Similarly, other studies have looked at adoption in

terms of individual faculty perception, but within the context of the larger environment

(Marcus, 1995; Zhao & Frank, 2003). Their study revealed that there is a dynamic and

fluid process of change and adoption within faculty as they interact within and with their environment. Other researchers concur with such findings and point to the socially constructed nature of technology learning (Frank & Zhao, 2004; Toledo, 2003; Zhao, 2003).

So, all these studies reveal that creating an atmosphere of ongoing support and incentives for change seems to matter more than offering training sessions about technology. As noted earlier, researchers are finding that issues around professional development and integration of organizational change needs a holistic approach that looks at a marriage of individual change needs with organizational change needs (Dirkx, Gilley and Gilley, 2004).

The Need for More Studies about Systems Approaches to Technology Integration

Integration of technology has been approached in traditional approaches to change with faculty development added to existing systems. These approaches require certain structures and processes, but these structures and processes are contrary to the existing traditional structures. Change in structures to foster faculty change needs a systems approach that does not serve as mere appendages to the traditional approach to learning, faculty development, and organizational development. However such changes mean that the integration of technology becomes highly problematic. Literature reveals that the organizational structures such as administrative structures, classroom structures and faculty development structures need to be transformed in order to transform an institution into a learning college.

This literature review seems to imply a need for an integrated and a holistic systems approach to technology integration. Such an approach further implies that people

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are agents of change as they are situated within a larger context that has been engineered to help bring about change. Technology integration that is approached mostly in a piecemeal fashion cannot effectively address all the supporting frameworks that are needed for faculty change.

While many issues demand that we look at change from such an institution-wide, systems approach (Rowley, Lujan, & Dolence, 1998), literature addressing both structural change with technology integration and faculty development is scant because most researchers usually address learning separately from organizational issues. Surry (1997) notes that there is no one integrated theory of innovation diffusion and adoption. Literature states that there is a need to further research such integrated approaches (Bates, 2000). Moreover, we need to study how faculty responds to systems approaches of technology integration.

Theoretical Framework

Most literature about faculty development assumes that training faculty about how to use technology will change their teaching. However, in reality, the most salient aspects of teaching stem from faculty's underlying beliefs about knowledge and teaching (Clarebout & Elsen, 2001; Clark & Peterson, 1986; Pratt & Associates, 1998). These general epistemic beliefs about teaching also prevail as faculty integrate technology into their teaching (Dirkx et al., 2004; Winkschitl & Sahl, 2002). Moreover, faculty change seems to involve a process of a social construction of technology in which the very environment that faculty work in and interact with one another influences change (Cuban, 1993; Kerr, 1996; Toledo, 2003; Zhao, 2003). That is, technology itself is not the only issue; it's the way people work and think in their work environment that affects

technology use. In this study, I will explore the issues around faculty beliefs and the social environment in which they work.

Faculty Beliefs

In a major literature review about teachers' planning, decision making and their theories about teaching and learning, Clark and Peterson (1986) confirm that teachers' beliefs about their students, teaching and learning strongly influence their goals, thought processes and actions in the classroom. Moreover, the ways teachers make meaning and explain their understandings about teaching vary across contexts. Many other studies about teacher beliefs have followed this major literature review and have looked at epistemic beliefs (Dirkx et al., 2004; Winkschitl & Sahl, 2002), beliefs about curriculum integration (Fang, 1996), cognitive knowledge about teaching (Schulman, 1986), informal theories translated into classroom practice (Dirkx & Spurgin, 1992; Nespor, 1987; Taylor, Dirkx & Pratt, 2001), early foundational knowledge about teaching (Richardson, 1996; Pajares, 1992) and the role of beliefs in pedagogical systems about teaching (Pratt, 1992; Pratt & Associates, 1998; Richardson, 1996). Recent research about faculty adoption of educational technology show that faculty vary in their beliefs about teaching and learning with technology, but that their beliefs and perceptions play a central role in how they use or not use technology (Bates, 2001; Ertmer, 1999; Loucks-Horsley, Hewson, Love, and Stiles, 1998; MacArthur & Malouf, 1991; Norum, Grabinger and Duffield, 1999; Ryan, Carlton, Ali, 2004; Sandholtz, Ringstaff, and Dwyer, 1997; Zhao and Frank, 2003). However, little is known about the kinds of beliefs, meanings, and perspectives faculty hold towards an environment created for learner centered technology integration.

Studies show that faculty behaves according to their underlying patterns of beliefs, actions and intentions (Pratt & Associates, 1998). These three underlying elements make up a faculty's sense of commitment. Depending on whether this commitment emphasizes learners, content, context or ideals, faculty will teach within five differing perspectives (Ibid). The following five perspectives have been categorized from studying teachers around the world: 1) The transmission perspective, or the traditional teacher-centered perspective is the most common perspective and involves the teacher as lecturer and disseminator of information. 2) The apprenticeship perspective gives the student some control in their learning, with the teacher as a mentor and guide. The faculty serves as a model of what is to be learned and provides a bridge between what the student knows and what they need to know. 3) With the developmental perspective, the faculty is concerned about how the student feels and grows as an adult. Faculty, with the developmental perspective, tries to help students cultivate ways of thinking. 4) Some faculty hold the social reform perspective in which teaching involves ways of transforming learning in order to create a better society and 5) Faculty with the nurturing perspective try to facilitate self-efficacy in students.

Given that faculty may hold these five perspectives, when learning centered teaching is the institutional goal, what actions do the faculty members take? What beliefs do they hold about systems-oriented technology integration such as the Integrated Learning Centers?

The Social Construction of Technology Integration and Faculty Reflections

There is evidence from the literature that the effects of technology integration and organizational change should be studied on a micro level and that the arrangements of

classroom organization and classroom instruction are important (Dreben and Barr, 1988; Hardy, 1992; Hooper, 1992). Pajares (1992) in a major literature review about teacher's beliefs said that teacher's epistemological beliefs influence knowledge interpretation and cognitive monitoring of students. These beliefs, moreover, strongly influence their behavior. In fact, teacher beliefs about teaching and learning tend to influence every aspect of teaching, including classroom design (Cohen, Castner, College, 2000), materials chosen for teaching, and procedures and actions taken to teach students.

According to Pratt and Associates (1998), the five perspectives of teaching seldom change unless teachers engage in "perspective transformation," a type of learning coined by Jack Mezirow (1978). This theory says that people's learning is transformed when a person engages in "a conscious recognition of the difference between (his/her) old viewpoint and the new one and makes a decision to appropriate the newer perspective as being of more value" (p. 105).

Similarly, McAlpine and Weston (2002) state that better pedagogical practice does not come from better pedagogical knowledge, unless the instructors reflect upon their past actions, build new knowledge in relation to external cues and instructional goals, and make decisions to modify teaching. Research about teachers and reflection (Brookfield 1991; Mitchell & Weber, 1999; Shannon & Crawford 1998) shows that teachers neglect to deeply and critically reflect on their practice, but instead rely on their pre-conceived understandings of how they should teach. Mezirow's work explains how this happens as our existing "meaning schemes" act as "boundary structures" that keep us from accommodating new information to challenge our existing assumptions and beliefs, "creating a zone of blocked action and self-deception," (Mezirow, 1991, p. 49).

Emancipation from "boundary structures" requires reflection about one's

intentions and beliefs in relation to other people and in relation to one's work. Further,

these beliefs lead to reflection-in-action within the contexts and situations people are

engaged in within their place of work (Schon, 1983) not apart from it. In institutions

such as the one in this study, the informal network of roles and functions of workers have

changed when institutions restructure for technology. As we have seen from the

literature, the very life of faculty work changes (Baldwin, 1998) when technology is

implemented in an institution. For faculty in a learning college whose role as a teacher is

supposed to change from a teacher-centered one to a learner-centered one, the implication

of reflecting upon the "boundary structures" seems enormous.

Yet, within a systems approach to change, many barriers to self-reflection may

hinder faculty from deep reflection. These barriers may include the common factors that

other institutions have experienced, including hierarchy issues and role change, political

in-fighting over ideologies about learning, and other power struggles within the culture of

change (Kerr, 1996). Therefore, the work environment of faculty seems central when

studying how technology is changing an organization. Given this, what is the range of

tensions evident in their responses to the ILC model? What contextual factors (such as

social, cultural, political and infrastructural) influence the kinds of epistemological and

other beliefs held by faculty?

Summary of the Literature

Reforms in technology implementation call for research into effective integration

of learning technology based on sound adult learning theories, and improvement of

retention rates (Conole, 2004). This involves engineering learning environments where

faculty believe in the role of technology to improve learning, especially student-centered learning. The inter-relationship of technology integration, student learning, and organizational change is a complicated process involving both a systems approach to structural change and transformational change in belief structures of an organization's members, particularly the faculty.

However, it's not the characteristics, nor the chaotic change environments of institutions that make this change so difficult. Rather, the absences of theories and frameworks that will help us move forward into learning centered environments prevent us from fostering effective technology integration. From reviewing the literature about faculty perception and professional development approaches, a systems view of organizational change that incorporates faculty development in a holistic way seems to hold promise. This study examines such a possibility.

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CHAPTER 3

Methodology

Educators are trying to find successful models of technology implementation for the learning college. They recommend a systems approach that is based on integrating new approaches within the existing structures (O'Banion, 1999). Institutions are hard pressed to find ways to accomplish this and at the same time produce effective learning outcomes, financial soundness, and effective faculty development (Bates, 2000).

This research studied an institution in Great Britain that used a unique approach to integrate technology into its educational settings. Unlike other institutions that often employ stand-alone, piece-meal approaches to technology implementation, this institution used an integrated approach to create a learning environment for its students. They created Integrated Learning Centers (ILCs) in five of its departments across the college. The study explored the faculty response to this model of using the ILCs because literature shows that an institution's objectives and the faculty's subjective responses do not always match (Fullan, 1991; Argyris & Schön 1974: 6-7). The main research question was: What are the faculty members' responses to a systems approach of technology integrated for student-centered learning?

As such, the study sought to answer the following questions:

- What actions did the faculty take in response to the ILCs?

- What beliefs do they hold about the ILCs?

- What is the range of tensions evident in their responses to the model?

Context and Setting

The site for this study was one campus of a large multi-campus further education (FE) college located in southern England. This FE college, (which, for the purposes of this study will be named with a pseudonym, Ward-Smith College), houses a vocational curriculum addressing the needs of school leavers, grades 11 to 14. FE colleges in England provide post-16 year-olds educational preparation to enter higher education or for vocational training. The FE colleges tend to serve their local and community needs, providing a highly flexible approach to education (similar to community colleges in America). Marked by the need to serve its students, the colleges tend to be learner-centered and vocational in their curriculum design. Ward-Smith college students consist of younger 16 to 18-year-olds and older adult learners.

The area surrounding Ward-Smith College is homogeneous in terms of race, but consists mostly of students from lower income households. Ward-Smith College also houses higher education (HE) programs and is affiliated with a university located about 100 miles away. They share higher education programs in terms of matriculation and course structuring. In general, lower level courses are taught here at Ward-Smith College and then students can attend the partnered university. Entire HE degrees also can be obtained here, and the College is known for its fine arts department.

Ward-Smith College adheres to the Learning and Skills Council's bylaws (LSC, 2005), its chief source of funding. It offers 14 areas of learning that range from entry to post-graduate level. Approximately 2,200 full-time students and approximately 12,000 part-time students attend Ward-Smith. Some 84% of the students are aged 19 or over. Approximately 4 % are from minority ethnic groups (compared with just over 2% in the

local population). The gender balance was fairly even, with 47% of students being male and 53% female. Unemployment in the area is low, at 1.3%. These are all 2001 figures.

Design

This study is a case study of a single institution exemplifying the integration of technology into its instructional programs. This study is a case study because the goal is to gain a holistic understanding of cultural systems of action (Feagin, Orum, & Sjoberg, 1990) at this organization. Eckel and Kezar (2003) state that those who tend to study organizational change use case study methods within a qualitative tradition. Moreover, their study shows that understanding change is complicated, contextual and confounding, and requires collecting information from a variety of methods across the institution. Therefore, this study uses the case study approach because the intention is to study the faculty in a change setting of an institution, in a setting where little control exists over events, and the focus is on real-life, context-dependent explanations (Yin, 1994).

The goal of this case study is to present, as accurately as possible, the most complete description of the case. The key to the case methodology is to utilize appropriate approaches to collect meaningful data. Miles and Huberman (1994) say we can generate meaningful data by categorizing, comparing and sorting information, by providing full descriptions of "what's there," and by assembling coherent understandings of the data (pp. 245-246). Using such qualitative approaches, this study attempts to provide a full description of the present institutional structure as well as the perceptions of the faculty toward the institution.

Selected Participants

Interviewees were selected based on their involvement in the ILCs. These people include administrators and faculty.

Administrators. Administrators included only those who are involved in the daily life of the ILCs, and those who were responsible for its creation. The names of these administrators were identified from the college website, from other directors and college catalogues. Seven administrators were interviewed. Of the seven, the key administrator of the ILC was interviewed 3 times, for approximately an hour and a half each time.

Faculty. Over a period of two weeks, 46 faculty members answered the online survey, with a resulting 20.5 % response rate. Preference for faculty participants was given to those who have been teaching at this institution before the ILCs were incorporated in each of the respective departments. The reason for the latter is because the study was interested in changes in faculty's beliefs as a result of the change at this institution. Since the ILCs have been instituted gradually across various departments, some faculty may have been teaching in the ILCs only for a few years, while others may have been teaching in it since the beginning of the first ILC's creation, 7 years ago. So, the intention was to select those who have met the criteria of teaching at least 3 to 5 years, but about two faculty in the interview had been at Ward-Smith for only two years. Fourteen faculty members were interviewed from email contacts through the online survey and background questionnaire. These interviewees were a mix of faculty who use ILCs extensively in their teaching, those who use the ILCs somewhat, and one who seldom uses it.

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Data Collection: Instruments and Procedures

Background questionnaires. Faculty were asked to complete a background questionnaire (Appendix A) online at least two weeks prior to the interview. The purposes of the questionnaire are to determine those that will be chosen for the interviews, as well as to determine the percentage of instructors using the ILCs. The interviewees came from three categories: 1) those that use the ILCs extensively for classwork 2) those that use the ILCs for almost half of the class work 3) those that don't use the ILCs for class work but assign homework in them only, or don't use the ILCs at all.

The faculty questionnaire contained three parts: (a) general information about the participants' gender, age, department, and experience with computers (b) participants' prior experience with the ILCs, and the amount of teaching they have had in the institution. (c) the types of technology and resources faculty use.

The questionnaire was administered online and prior to interview sessions. The director of technology asked all faculty members, via email, to answer the online survey. A second request for response was sent out one week after the initial request, via email, to those faculty members who did not respond. From the responses, 16 were selected for in-depth interviews and observations. Two of the 16 were ILC staff members.

Interviews. This study employed semi-structured interviews as a major data-gathering instrument from both the administrators and faculty. The interviews were semi-structured and in-depth, lasting approximately one to two hours. The interview questions followed a protocol developed by the researcher.

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There were two separate sets of questions for administrators and faculty. The interviews for faculty consisted of open-ended questions which asked about the person's personal background, their normal, daily work life, beliefs about teaching and learning, and attitudes about technology. The major stimulus questions within the interview protocol (Appendix B.2) consisted of the following:

Tell me why you teach at this institution?

Describe your previous experiences, if any, working with technology

What are your goals at the college?

What does teaching/learning mean to you?

Describe your work day and describe how your work has changed since the restructuring.

The questions for administrators were similar general questions about their work, but were specifically tailored towards gathering background information about the ILCs.

The aim of this study was to find out how faculty made sense of teaching in the ILCs which were created for learner-centered instruction. My goal with these semi-structured interviews was to explore the tensions that are inherent within the policies and institutional structures and examine the perceptions of the faculty toward the ILCs. The data presented are descriptive, depicting the themes that arise from semi-structured interviews, document analysis and observations. The goal was to describe what the restructuring meant to faculty, what their daily life is like, how they have reacted to teaching in the ILCs.

To protect respondent confidentiality, the participants were asked to choose a false name, which was used to identify them during data collection and analysis.

Interviews were conducted at the place of interviewees' work, in conference rooms and personal offices. One interview was conducted over the phone, prior to the face to face interviews in England, as a trial run of the questions before the research trip. To hide the institution's identity and location, a pseudonym was also given to the institution. All raw data throughout the data analysis carried the pseudonyms. All reported findings also carry the pseudonyms.

All interviews were tape-recorded and transcribed verbatim. These transcriptions were compared to field notes, observational schematics and coded observational categories. Observation notes consisted of "thick description" (Denzin & Lincoln, p. 16) with the investigator as objectively removed from bias as humanly possible. As common, I was aware that I had my own biases, but I tried to understand the descriptions from the perspective of the interviewee and those observed.

Some the interview data consisted of notes taken after the interview was finished, and not recorded on tape. This is because some interviewees tended to talk a lot more after the interview was over. Permission was granted verbally to use this information. *Observations.* During the summer of 2004, a pilot study was conducted. During this pilot study, informal observations showed that the students worked and learned in environments that are different from traditional classroom environments. Integrated Learning Centers (ILCs) cluster computers into groups of six to eight, which allows for group interchanges. Support staff is located directly in these ILCs, allowing for onsite, immediate tutoring as well as technical support. From these initial observations and from O'Banion's (1997) list of the six principles of a learning college, an informal list about learning centeredness was generated to study how students, faculty and support staff

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interact (Appendix C). This list helped to focus the researcher's attention during the observation.

The observations took place during hourly class segments in the ILCs throughout two school weeks. The faculty and students knew they were being observed, but the researcher was seated in an obscure corner of the room. The objective of the observations was to discern how the faculty, students and staff implement teaching and learning in the ILCs and whether students indeed participate in a learning-centered environment (according to the principles of a learning college (O'Banion, 1997).

Documents. Institutional artifacts, records and documents explain the policies, structures, and beliefs surrounding the restructuring of this organization. Records consist of formal, official documents such as the mission statements and organizational charts. According to Hodder, 2003, less formal documents consist of memos, minutes of meetings, and articles that people refer to. These items were collected from the administrators and support staff.

Establishing the Trustworthiness of Data

Case studies seek to give voice to multiple perspectives. As such, this study sought to explore faculty perspectives in the background of administrator's actions. Many research philosophers espouse triangulation of data to confirm validity of the processes (Stake, 1995; Yin, 1984). As such I used data from semi-structured interviews, documents, and observations to triangulate the information to first explain the type of structure that has been established and then secondly, to explore faculty response to the structure. A triangulation approach (Flick, 1998) helps reduce the likelihood of misinterpretation and adds validity to research. The data collection sources included a

background questionnaire, semi-structured interviews, examination of the institution's documents, and observations of teaching and learning. These multiple sources of information were consistent with those recommended in case study research (Yin, 1994; 2004) for corroboration.

Data Analysis and Representation

Description of Themes

To determine the themes of the structural change process, I expected themes to emerge as "a reflexive collage or montage- a set of fluid, interconnected images and representations," (Denzin & Lincoln, 2003, p. 9). The analysis was based on "open coding" (Strauss & Corbin, 1990). This means similarities and differences in interview responses were placed into categories, based on a "constant comparative" method (Glaser & Strauss, 1967). Categories, patterns and themes were noted during the interviews and observations, after the transcriptions, and during the write up of the reports. The transcripts were categorized from the very beginnings of the interview transcriptions. As general themes emerge, mental maps (Ryan and Bernard, 2003, p. 266) were drawn before reports were written and rewritten. Mental maps or concept maps help cluster ideas and themes. Scribe and Inspiration were two software tools that were used to help analyze data.

The goal was to gather a rich experiential description through analysis of reflective discourse that described the understanding of people's experience within their external context. "Analysis is undertaken through comparison of data obtained from a group of participants in an attempt to describe the experience of the phenomenon in terms of the essential meaning of the qualitative variations," (Bernard et al., 1999, p. 215). The

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data in this study were analyzed in terms of how people made sense of the educational technology integration model in the restructured environment.

Therefore, people were asked to describe their experience and engage in reflective analysis of their experience, whenever possible. As faculty described their experiences, they were prompted with questions such as: "What do you mean by that? Can you give me an example? How does this relate to your environment? Then these texts were categorized while preserving the original descriptive terminology as far as possible. The language of the participants was preserved, and then categorized into clusters of categorical analysis that cut across individuals.

Delimitations and Limitations of the Study

When one finds an institution that undergoes structural transformation with technology integration, it may prove itself as a viable model as researchers look for models of successful systemic technology integration. This study focused on such an institution and examined faculty transformation. However, the study was confined to in-depth interviews with a limited number of administrators and faculty at one further education college in Great Britain. Findings of case studies generally are context bound, and vary from place and time of delivery. The study also involved documents and charts which were chosen by the administrators of the institution. Observations were limited to several hours per day over a period of two weeks.

Moreover, as this study was context bound, the same structures and policies that created this college's transformation may not transfer well to other geographic locations. National and local regulations differ at this British institution when compared to American post-secondary institutions. Furthermore, the administrators and the type of

leadership they bring to the institution may be uniquely suited for this institution. The type of culture, politics, and an in-depth study of day-to-day life at this college was not possible from a distance separated by continents. Such a study, over a long duration, is needed to give a full ethnographic study of this type of transformation and to study the role of systems approaches to technology integration for student-centered learning.

The Researcher and the Researcher's Role

As a researcher, I knew that my research was bound by constraints of my self identity, self construal, and my interactions within the social context. As an Asian American, I am sometimes aware that at institutions with few minorities, receptivity toward me may not be as welcoming. However, having grown up within environments in which I am the lone minority, I was unconscious of my Asian self and accommodated English settings without the awareness of my bodily self. I did not feel that in this institution, my Asian identity became an issue. If anything, the faculty kept referring to me as an American.

Further, my job involves technology, and therefore, I might be biased towards a study that favors successful outcomes of technology implementation. However, my with faculty who are not as optimistic about technology has converted me to become more realistic with educational technology. I do not work with those who value fast connections and "bells and whistles," but I work with faculty who range from reluctant users of educational technology to downright anti-technology users.

Indeed, during the past five years, I have been disappointed with the progression of distance education and the creation of the digital divide. My cynical view is that technology, such as those used for distance education, is a mere money making tool, and

not at all the enterprising tool to "educate the poor" and become the "great equalizer" that techno-enthusiasts once touted in the mid 1990s.

Despite this, I hope that when technology is integrated properly into institutions, learning will improve, and that under-prepared and developing students will gain the skills they need to enter gainful employment successfully. A realistic view of such a hope should stem from a perspective that not all faculty members will think about technology the same way, nor necessarily embrace it.

So, I entered this study with an eye towards improving the educational environment, and a renewed sense that improving education means dealing with the many tensions that must be wrangled within the souls of those involved.

CHAPTER 4

Context of the Study

The aim of this chapter is to describe the context of the technology integration at Ward-Smith College (pseudonym), a further education college in England. First, I will give a brief overview of the external context including the policies and historical background of the educational system in England. I will focus then on further education colleges and universities. Then, I will describe the student population and the physical setting of the college. This will be followed by a brief history of the evolution of the Integrated Learning Center model this institution used to integrate technology. Then I will describe how the college was restructured, and the theory and rationale behind the technology integration. I will then describe the basic functions of the ILCs, and give a brief summary of the student responses. Finally I will describe a teaching day in the life of the ILCs followed by a summary. The data for this chapter were obtained from interviews of administrators, faculty, internal documents, and government websites. Some books served as background information sources about the history and the educational system in Great Britain.

The Educational System in England.

Public education became compulsory in England with the Education Act of 1870. The main impetus for this Act came on the heels of the Industrial Revolution so that workers could have basic reading and mathematical skills (Simpson, 2004). At first, only elementary school age was compulsory and then gradually the age limit was raised to age 15 by the end of WWII. In the 70s that age was raised to age 16, which is the age limit today.

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Presently, about 93 percent of the students attend government-funded (public)

schools. The rest, seven percent, attend public schools. (Please note that "public" means

"private." Also, college means high school; the equivalent of what Americans call college

is termed "University"). Every school abides by the National Curriculum, which was

introduced in 1992. The National Curriculum determines the content that needs to be

taught. The teachers have the freedom to teach the way they like, although they have to

report to and be assessed by the government (National Curriculum Online, 2006).

The National Curriculum defines four key stages to P-11:
Key stage 1: up to age seven (years 1 and 2);
Key stage 2: age seven to eleven (Years 3, 4, 5 and 6)
Key stage 3: age eleven to fourteen (Years 7, 8 and 9)
Key stage 4: age fourteen to sixteen (Years 10 and 11 - preparation for academic and
equivalent vocational qualifications)

The core curriculum subjects for stages 1 and 2 are math, English and science.

Other subjects include information history, geography, technology, art, communication,

and physical education. Curriculum for Middle school ages 11 to 14, or grades 7 to 9,

tend to include language and citizenship. Graduation is assessed based on General

Certificate of Secondary Education (GCSE). Students typically pass five GCSEs to

obtain a high school diploma, but up to 10 subjects can be tested.

After 10th grade, typically at age 16, students have the option to continue their

education by attending a Sixth Form College or a further education college. Typically,

from age 11, students go to a comprehensive school where they can finish schooling at

age 18. There are also secondary schools that have grades 11 and 12 attached to them

and they are called School Sixth Form. There are currently about 100 Sixth Form

Colleges in operation in England and Wales. Some students choose to leave the

comprehensive school at age 16 and elect to go to a further education college, or a Sixth

Form college. The latter are colleges for 16 to 18 year-olds. Sixth Form colleges tend to be more academically inclined than further education colleges, which tend to be more vocationally inclined. However, some Sixth Form Colleges also have vocational programs and the line between the two types of colleges are blurring. Students who want a more adult like atmosphere tend to choose a further education college (The British Council, 2006; The British Embassy, 2006).

Further Education in England. As previously mentioned, in Great Britain, compulsory education ends at grade 10 or year 11. Students then can choose to find employment, go on to a vocational school like a further education (FE) college, or get an A Level Degree at a Sixth Form College and continue on to higher education degrees at a university. At these colleges, students can attain AS (one more year of school) and A-Level (two additional years of school) and pass the examination for those levels. Typically they take 3 to 4 subjects from the arts or the sciences. During this time, the students take a series of exams. Typically, at age 16, students take GCSE exams, and then at age 17 and again at age 18, students take public exams with qualifications in order to degree through A Levels and to apply to a university.

Many students elect to take the A Levels at a Further Education College. A Further Education College has the dual purpose of serving post 16 year olds as a bridge to the university, or providing vocational education. This idea is similar to Community Colleges in America. Graduates can apply for GNVQs, or general national vocational qualifications (British Council, 2006). In summary, students follow three basic pathways in further education: academic (A-levels); general vocational (GNVQs); work based

(NVQs-national vocational qualification). All these can be taken at the foundation, intermediate, or advanced levels.

In 1992, the British government, with the enactment of the Further and Higher Education Act, began to incorporate the FE colleges and assumed control away from local area education authorities. Previously, FE colleges received funding from local authorities (LEAs), which had maintained a stable financial environment for them. Under the new funding structures, colleges became more insecure and uncertain about funding issues (Dearing, 1994). At the same time, the government passed major policies affecting vocational training and qualifications (TEED, 1992). They also created the governing body called the Learning Skills Council and the Learning Skills Act of 2000 to define FE colleges as community oriented entities that operate as entrepreneurs within a market, competing for funds (OFSTED, 2005). The LSC provides curriculum guidelines and philosophy of education for FE students.

There were an estimated 2.26 million learners in Council-funded FE in 2004 (ILR/SFR06, 2005). The central government funds the FE colleges. Students also fund their education through loans and fees, but for the FE students, all aid comes from the government. The latter funding structure is rumored to be changing next year, and students will have to pay more of their own tuition.

In 1997, a series of commissioned reports and the following government responses called for a new era of education for lifelong learning. The main message behind these reports and responses was "that lifelong learning enhances personal and professional careers, organizational and economic development objectives, and, through them, social and economic cohesion" (Berman et al., pg. 271). The call was for a

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learning society for the new millennium. Much of the curriculum and higher educational policies are influenced by the Dearing Report (1997) which stated:

> "We recommend that all institutions should, over the medium term, review the changing role of staff as a result of Communications and Information Technology, and ensure that staff and students receive appropriate training and support to enable them to realize its full potential."

The implication of the Dearing Report is that the roles of staff need to change. The Report further pointed to the increasing numbers of both full and part-time students and noted the increase in diversity of the student body, as more students tend to be from non-traditional backgrounds. Moreover, according to the Dearing Report, information technology (IT) is to play a pivotal role in effectively carrying out learning. The Dearing Report recommended that institutions network their IT labs and use high quality computer-based learning materials. This Report and others show that the philosophy espoused by the central government, or the Learning Skills Council (LSC) is student-centered learning, personalized guidance and emphasis on e-learning. Institutions have responded with student-centered and resource-based learning using largely computer-based learning materials (Oyston, 2003).

One of the major policies that affect funding and institutional policies is the concept of Guided Learning Hours. According to the Learning Skills Council, all full-time students are to receive 450 Guided Learning Hours per year. These are learning hours, not necessarily involving all classroom seat time, but learning time guided by some type of supervision by staff, not necessarily by subject-matter instructor. Accordingly, the Learning & Skills Council defines Guided Learning Hours (GLH) as:

> ".... all times when a member of staff is present to give specific guidance towards the learning aim being studied on a program. This includes lectures, tutorials, and

supervised study in, for example open learning centres and learning workshops. It also includes time spent by staff assessing learner's achievements .... It does not include time spent by staff in the day-to-day marking of assignments or homework where the learner is not present. It does not include hours where supervision or assistance is of a general nature and is not specific to the study of the learners." (Dearing, 1997, Recommendation 9)

Universities. Universities in Britain generally have either an academic focus or a vocational focus. Before 1992, universities were classified into polytechnics and regular universities. The polytechnics tended to be more vocationally oriented, but received less status than the regular universities. Therefore in 1992, all these schools became universities, although some still emphasize more vocational training than academic training. Undergraduate programs typically take 3 years to complete; professional degrees are usually taken as 5-year undergraduate programs. Masters Degree usually takes 1 year to complete, with a research masters taking two years. PhD degrees take 3 to 4 years or longer.

About 40 percent of the population attends college. The government goal, similar to most other countries, is to have at least 50 percent of the population attain a college degree. There are about 1.9 million students in full and part-time university study today. Elite universities such as Oxford and Cambridge tend to take high numbers of students from (private) schools. Note that only 7 percent of the population attend these (private) schools.

About the College

Ward-Smith College (pseudonym) is a large general further education (FE) college in Great Britain that also offers higher education (HE) programs. Ward-Smith offers both vocational as well as higher education degrees all the way up to the Ph.D level. The College is affiliated with a nearby university and shares higher education

programs in terms of matriculation and degree structuring. In general, lower level courses are taught at Ward-Smith College and then students can go onto the affiliated University. Entire HE degrees also can be obtained here, and the College is known for its fine arts department. This department houses fashion and graphic arts design. As such, Ward-Smith College would be most comparable to community colleges in the United States.

Ward-Smith College adheres to the Learning and Skills Council's (LSC) bylaws, its chief source of funding. It offers 14 areas of learning that range from entry to post-graduate level. Approximately 2,200 full-time students and approximately 12,000 part-time students attend Ward-Smith. Some 84% of the students are aged 19 or over and 4.4% are from minority ethnic groups (compared with just over 2% in the local population). The gender balance is fairly even, with 47% of students being male and 53% female. Unemployment in the area is low, at 1.3%. According to the Learning Resources Dean, the College's mission is to make "a significant contribution to the economic, cultural and social life of the Southwest and the United Kingdom by being a learning organization and creating a broad range of high standard learning opportunities."

Educational Technology Integration at Ward-Smith

"Student-centered learning" and "efficient use of resources" are commonly used terminologies within the college documents about the Integrated Learning Centres (ILCs). The main idea behind the ILCs is to bring all the students services in one place for the student, rather than making the student find all the services that are usually dispersed in different parts of the campus. Moreover, instead of having one learning center, as is common in other colleges, Ward-Smith chose to create an ILC for each

division of the college. The rationale for this was to provide flexibility for the differing needs of each division.

Rationale for technology use. Technology integration at Ward-Smith adheres to the government's mandate to expand participation of students and increase the numbers of students who traditionally do not progress through higher education. This is part of a government-sanctioned goal of democratization (Schwitzer et al., 2001). Ward-Smith College provides one-on-one tutoring (often using technology) for special education students as well as remedial students to help them succeed to degree completion, according to the Director of the ILCs. Ward-Smith's very survival depends on the number of successful FE students who pass the A-Level exam. If they do not meet the numbers, their funding will be cut.

Additionally, Ward-Smith has to compete with a nearby college. This college is a Sixth-form college for FE students and has more of an academic orientation, providing an extensive General Certificate of Education Advanced Subsidiary and Advanced-level courses. These courses lead to university entrance. Thus, Ward-Smith's focus has become largely vocational and it has sought innovative ways of offering its delivery in order to compete with this nearby Sixth-form college. Ward-Smith sought to meet this challenge with ways that centered on learning with technology, rather than mimicking the teacher-centered delivery methods of this nearby, academically oriented college.

The concept of the learning centre. The concept of the learning centres dates back to the early 1800s, according to Kelly (1992, p. 383-6), who observed that working men's colleges originated the concept but never survived. It wasn't until the 1940s that the concept of an education center took hold. The concept back then was to develop a place

for realizing the concept of life-long education. Learning was to be a process shared with others, within groups of students. Moreover, students were to have a say in what they learned and how the curriculum was planned. The Ministry of Education wrote a pamphlet in 1947 called *Further Education*, that pointed to the value of existing centres at Vaughan College, the London literary institutes and at the Cambridgeshire village colleges. The idea was to provide a place of learning that was comfortable, leisurely and respectful of the adult "cultivated" mind (p. 386). Back then the Local Education Authorities regulated further education, and therefore tried to create such learning centers for evening education. By the 1960s there were about 30 such adult education centres in England and Wales. Some of these developed into full colleges; others died; still some remained as community centers (Kelly, 1992).

Today, the learning centre model is a well known as a concept popularized by the British Open University, which set up learning centers all over Europe and in more than 30 non-European Union countries (Newman, Couturier & Scurry, 2004). Businesses who are aware of the need for instilling self-directed learning in their employees have also set up learning centres as a means of providing professional development opportunities (Scott, 1997).

Across the UK, the learning-centre approach in educational institutions today is a response to the general shift in work requirements for higher level skills (Abson, 2003) and lifelong learning. Parallel to the growth of these centers in the late 90s, the national government produced a series of reports. The First report of the National Advisory Group for Continuing Education and Lifelong Learning and the Dearing Report, both published in 1997, declared that promoting skills for lifelong learning should be part of

every school curriculum. Along with that, the report added the announcement of an additional half million students in further and higher education by 2002. The reports emphasized the need for retraining to survive in the workplace. At the same time, a green paper entitled the Learning Age was issued in 1998 by the Labor Administration (Abson, 2003) which also encouraged people to return to school for retraining and to acquire lifelong learning skills. This green paper placed an emphasis on adult basic numeracy and literacy skills, and at the same time called for an increase in advanced courses at higher education institutions.

In summary, these reports indicate that both pressures from the growing numbers of students and the pressures of the changing-workplace-demands mean that students need to learn more independently in a supportive learning environment. This, as opposed to a teaching environment, seems to be the government's goal. Thus, they assign the term, student-centered learning, or learning centered learning. Thus, the learning centre model seems to address the need for such learning with technology in a supportive, informal environment.

History of the Creation of the ILCs at Ward-Smith College.

In the late 1990s, according to the head librarian of the time, the library and curriculum resources seemed to be increasingly marginalized as IT was brought into the college. In 1999, this prompted the management to evaluate the role of the Learning Resources Service (such as the library and curriculum resource centers) which at the time was centralized in one location. According the Resource Director's observations of the past, these facilities were not being utilized well and teachers had very little variety in the

way that they delivered curriculum. The Director decided to initiate change to mitigate these problems.

While the birth of the ILCs as we know them today was an evolutionary process, there were specific plans and steps taken at each step. First, according to the Director, the executive management had to be convinced that the plan was sound, economical, and beneficial to the college. Through a series of meetings and through a series of fortuitous events this was accomplished. The management soon recognized that there was little pedagogical impact on the students, teachers lacked new curriculum development initiatives, and there was poor student retention. Moreover, students and staff had poor communication links.

Preliminary study. The head librarian therefore tried to find more effective uses for these resources by applying for a grant to study ways of restructuring the college for learning. With the funded grant, a study team visited nearby colleges with innovative models of technology integration. Although the team did not find one model suited to their needs, they did garner ideas from these institutions about what worked and didn't work.

An idea and a series of fortuitous events. The head librarian devised a solution which was to integrate the previously independent services of the Learning Resources Service with instructional support staff, special education support staff, and library and technology so that a more collaborative level of support could be created around students' needs. Although the executive staff needed convincing, due to a fortuitous chain of events, this idea soon became a reality. First, one of the buildings that housed technology had asbestos in the ceiling and had to be remodeled. So, the librarian convinced the executive management that it would be more cost-effective to create an Integrated Learning Centre

(ILC) there instead of just a technology center. So, the executive management agreed, and the first of the eventual five Integrated Learning Centres was created. The Centre invited few select faculty members to serve as mentors and time tabled them into the centers. These faculty members served the role of attracting other faculty to use the centers and served as a liaison to the rest of the faculty. The result was very successful, with many faculty and students using the center.

Soon thereafter, the director of IT retired and then the director of learning resources also left Ward-Smith, leaving the Director of Library Services in charge of all these services. The Director of Library Services, or the head librarian, then became the Director of Learning Resources and began to create a matrix structure for managing the ILCs. His plan was to eventually create five ILCs for the college, one for each subject division. It was a progressive, strategic plan that included an implementation timeline of 1998 to 2005. By 2002, the college had acquired two ILCs, one for Service Industries and another for Technology and Construction. By 2004, the one ILC for Technology and Construction split into two separate ILCs, and an Arts and Design ILC was added. In 2004, the Service Industries ILC relocated into a modern student union building. In 2005, a Health and Humanities ILC was added to complete the plan of creating five ILCs.

Queens report is a document obtained from management that describes the ILC model. This document describes the uniqueness of the ILC model saying:

> Many colleges have attempted some form of integration over a number of years, either bringing library and IT together, or library and learning support together, or indeed all three areas. What makes this development unique is the combination of an integration policy that includes each area of the curriculum in a series of devolved centres but with a central structure and infrastructure uniting them into one coherent service.

Restructuring of work roles. In its finale, each of the divisions, Health and Humanities, Art and Design, Construction, Social Work, and Technology had an ILC in their part of the campus. This further affected the divisions in the way the college was restructured, not just physically, but in terms of division of labor. So, the second major change was that the staff's role became more diverse, holding more diverse skill sets than in the traditional model.

This is the case with teaching staff as well as the ILC staff. "By emphasizing the multi-skilling/multi-disciplinary role of these staff, a platform for the full integration of the learning centres into curriculum delivery has been created. Blurring the boundaries of staff roles has enhanced the effective use of the different skills possessed by all staff in providing an environment that is a visible commitment and focus for learning," (Beacon Draft, 2003).[1]

Enveloping the ILC concept is a team-based approach, which was created as a means to support teaching as faculty teams up with support specialists. "The concept of the 'core team' to operate each centre is at the heart of the team-working approach." (Beacon Draft, 2003). Rather than making the staff go to a support center, (such as at most other colleges), the support is located departmentally, where the staff works. As the instructors were asked to integrate resources into their curriculum and teaching, they were asked to work with the ILC staff within their divisions and with other colleagues to create a curriculum that was based on resource-based learning. An example would be to have a group of five teachers work together with two teachers doing all the teaching, two teachers designing curriculum development and teaching part-time, and one teacher teaching part time and the rest of the time tracking and monitoring student progress.

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[1] This is an internal draft for application of the Beacon Award, which the college received.

As illustrated in Diagram 1 below, the Director also integrated services and located each ILC within each subject clusters, offering more of a "just-in-time" approach to meeting the specific needs of learners for each major curriculum area of the college. The support staff in the ILCs consist of reading and writing specialists, special needs counselors, librarians, and curriculum experts, all located at one central place in each building where the resources for that department are housed. Learning resource and information support services staff mainly function as librarians. IT support tutors help with technology issues as well as e-learning. They also help faculty by finding software and other computer related materials pertinent to the curriculum. Additional learning support/literacy and numeracy support staff tutor students, providing remedial help. Faculty develops curriculum and activities for core studies, sometimes by working with learning resource tutors in the ILCs. The latter educate faculty on the resources that are available in the ILCs. Student support officers are also housed in the ILCs, but their primary function is to council students on discipline issues and update them on their progress. In the ILCs, students can also find resources to help with family planning, drug education, financial advice, finding accommodations, and career planning.

All of the above staff is supposed to try to become multi-skilled and take on multi-disciplinary roles. That way, a full integration of the learning centers' resources can be delivered into the curriculum, according to the ILC Director. So, at any time, students can have a broad range of questions for any staff member, and any staff member will be able to give a ready answer.

Staff from the library, technology, learning resources and special education tutors all meet to form a community of support staff for faculty and students in the Integrated Learning Centers.
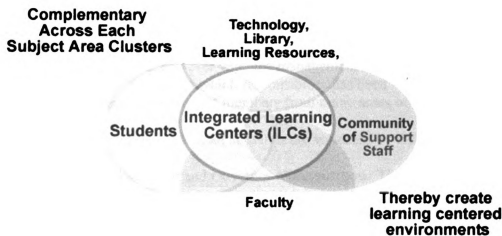
New communication structure. The third major restructuring was reshuffling of the communication and management structure. The matrix organization set up by the Director creates a communication system that liaises from the bottom up to executive management about the activities of the ILCs. In a matrix structure, people are teamed up according to division as well as function. Team members sit on two or more teams and therefore report to two or more managers (Morgan, 1986).

The plan is to make sure that no area of the college is without input into the daily functions of the ILCs, according to reports and documents about the ILCs. A Learning Center Planning group monitors the development and progress of the ILCs. The group is made up of the ILC coordinators and the College Service heads. They make sure that each ILC develops in accordance with the College's curriculum delivery strategy. Each division diagnoses individual learning needs and learners receive appropriate needed support through the learning centers.

According to the Queen's AwardV (2005, p. 11)[2] report, this structure helps

integrate the ILCs into the college in a less hierarchical fashion than traditional colleges:

"The predominant structure still found in the majority of colleges is based on the
hierarchical management pattern. It is very difficult to obtain the level of
integration required, however wide the management area, and a distinctive feature
of this model is the way in which responsibility has been transferred to the
operational team consisting of members from many areas of the College."

At the top tier of the matrix, all activities are validated by the ILC Policy and

Steering Group, with Executive and Governor representation. This tier is responsible for

setting and monitoring goals and targets for the ILCs. They also analyze their impact on

the College as a whole. The next tier of managers meets with managers within each

Division to keep abreast of each division's teaching and learning activities and needs.

The ILC staff in each of the ILCs in turn holds weekly team meetings and liaison

meetings to discuss the activities of the ILCs and the needs of the staff and students.

From within each ILC, groups form across other ILCs by category of work. So, for

example, all Technology Resource Tutors from each ILC meets together. At each level, a

representative reports to the upper tier as well as collaborate laterally to ensure planning

and implementation of ILC activities. All centres also hold regular user group meetings

that are attended by students who are encouraged to provide feedback and engage in

discussion as to how the centres can be improved (Queen's AwardV, 2005). For a full

diagram of the matrix, please see Chart A on the next page.

The Theory Behind the ILCs

The integration of the resources and technology into curriculum is based on the theory of

'complementality,' according to the Director of the ILCs. This theory says that "the

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[2] The Queens AwardV is an internal report created by the management for the Queens Award.

infrastructure of each centre is consistent, enabling each learner to use their transferable

information and technology skills in any centre across the College" (Weeden, 2004). The

idea is that each center is not identical, but the skills learned in one center

should be transferable into another. The idea is to bring all the services to the student

rather than having the student seek out services that were dispersed throughout the

college. "The way the physical resources are deployed ensures that they are worked

harder than if they were in smaller units with less supported access. Computers, for

example are utilised for 59% of their time in the ILCs as opposed to 38% when in a

classroom." (Queen's AwardV, 2005, p. 5).

Technology as part of Resource-Based Learning. The main description for learning in the

ILCs is described as resource-based learning. Resource-based learning (RBL) simply

refers to students engaging in learning with the use of resources. RBL is not related to

any specific learning theory or pedagogy (Hill & Hannafin, 2001; Ling, 1997). However,

as resources for learning have come to include a variety of digital tools, the resurgence of

resource-based learning is gradually becoming associated with inquiry-based learning

such as project-based learning, problem-based learning and constructivism (Campbell,

Flageolle, Griffith & Wojcik, 2002). The more familiar terminology in the United States

is blended learning and flexible delivery. All of these are labels for learning with various

types of media to suit the learning style and the preferences of the learner. The media can

include software such as PowerPoint, mind mapping tools such as Inspiration, or graphics

tools. Students can find information on the Internet, watch videos, DVDs, or access CDs.

Strategy ⇨

Learning and Teaching Committee

Quality - Organisation of Learning

Divisional management

Divisional Curriculum Managers

Teachers

Students

Support Staff/ other users

ILCs PLANNING AND STEERING GROUP
1. D. LRS – Resource/Service provision
2. D. Curriculum – Mang./ curr. development
3. D. Org. of Learn – Quality, health checks
4. Governor Link Person
5. ILCs Coordinator – Reporting, ILC strategy implementation and operational management
(Meet 1 per term)

LRS MT
1. D. LRS
2. Coll.Librarian
3. ILCs Coord
4. ILT D.O.
5. Mang MPU
6. Webmaster
(Meet Weekly)

ALL ILCS

Individual ILC

EACH ILC/ DIVISIONAL MANAGEMENT PARTNERSHIP (Meet 1 per term)

Operational ⇨

ILCs 'MANAGEMENT TEAM
1. ILCs Coordinator
2. College Librarian
3. I T System Support
4. I T Support Tutor Services
5. Add. Learning & 'Basic Skills' Support
6. ILT DO and Curriculum Support Services
(Meet 2 per term)

INDIVIDUAL ILC USER GROUPS (Meet 1 per term)

ILCs LIAISON GROUP
1. ILC Coordinator
2. Library Serv. Manager/College Librarian
3. ILT Dev Off
4. ILC Liaison Persons (x5)
5. LRT HSW
(Meet 2 per term)

Actions ⇨

A & D ILC Team	Const ILC Team	S.I. ILC Team	SPS ILC Team	TECH ILC Team

Library & info. Support Services	IT Support Services	ILT and Curriculum Support Services	Add. Learning and Basic Skills Support Services

Communication routes ←→

Figure 3. **The Matrix Communication and Management Structure for the ILCs**

They can also read books, or ask librarians, teachers or other subject specialists to find information. Similar to our concept of student-centered learning, resource-based learning says students learn independently using resources with faculty as guides-on-the-side. *Basic functions in the ILCs.* Regular meetings between the core team of each division, as well as across divisions, monitor effectiveness and maintain the ideals of integration of technology, learning materials and curriculum delivery. At the core of each ILC is a team of staff who provide a full set of support for learning and teaching. This team elects its own team-leader who reports to the ILCs Liason Group, part of a matrix structure of management.

A Learning Resource Tutor is a member of the core team and acts as a liaison to the subject specialists. These tutors manage the financial aspects of the centers. A College Materials Production Unit helps staff develop online course materials (that are not distanced materials but are used over the college network). Library and information center staff not only act as librarians during active hours, but also find web-links for student project work and staff research. The technology support tutor manages the operations of the information technologies at the Integrated Learning Centres and helps faculty with technology related instructional tasks. Their job can be as simple as shutting off all the computers at the end of the day or as complicated as creating a computer based learning module to meet the needs of an upcoming class session. The latter task used to belong to an e-learning advisor who used to liaise with faculty to help find and develop materials for learning. They were responsible for creating e-learning materials that will help instructors carry out their instruction and meet their instructional needs. These advisors used to bring faculty into the ILCs to help them use technology effectively for

student-centered learning. They were the public relations people, promoting the ILCs to

the faculty. However, due to recent budget cuts, all of the advisors were let go.

Personalized learning and e-learning are also two government mandates that

Ward-Smith intends on abiding by, according to the reports about the ILCs. As the

College document about the ILCs (Queen's AwardV, 2005, p. 2) states:

> Traditional teaching methods have made it difficult to focus on individual needs
> and learning plans. The ILCs provide a variety of accommodation and
> technologies that can help to support a differentiated approach to each student
> within the learning environment. Different models of delivery and support are
> now being explored by staff working far more closely with their colleagues.

As such the curriculum support staff, learning support staff, and the student

support officer all team up with personal tutors who monitor student progress. The

personal tutors meet with students individually once or twice a term and hold regular

hourly sessions every week with their team of students in order to assess their academic

progress. The learning support staff help with special needs students who have dyslexia

or other ailments.

The remaining staff such as the library services assistant, the IT technician and

careers information staff are all housed in the ILCs to support student needs. The centres

are accessible to students for 247 hours a week with the widest span of 63 hours.

Student responses. According to a previous college survey, 94 percent of students

surveyed placed high priority on the ILCs as a vital resource for their studies.

Furthermore, retention rate rose to 93.9 percent by the year the fifth ILC was opened in

2005. They further reported that 81% of students surveyed used the learning centres at

least once a week and 97% at least once a month. The use of library materials has

increased steadily since the ILCs were implemented. There has reportedly been steadily

increase in the use of the ILCs, doubling the use over time as more ILCs were created

(Beacon Draft, 2003). Moreover, the community has become curious as to what the ILC

model is and in response, the College has granted anyone in the community the use of the

ILCs through an Associate Member scheme.

During my observations of the ILCs, I informally interviewed some 40 students. I

asked them what they thought of the ILCs and what they thought of learning in the ILCs.

With the exception of four students, they all said they enjoyed the ILCs and liked to learn

independently in the ILCs rather than in the classroom. The four students said they either

had problems keeping track of their own work or they disliked what the teacher was

having them do in the ILCs. One student said it was strange that the teacher doesn't

teach but just gives assignments and she has to learn on her own.

Teaching in the ILCs

The following descriptions are from field notes taken during the observation of the ILCs,

combined with transcribed interviews and data from documents collected from managers.

This is a continuation of the "A Day in the Life of the ILCs," but with a focus on

teaching. Most of the observations took place in the largest of the five ILCs, the ITS

Atrium ILC, which supports the Division of Service Industries. This Division includes

Travel and Tourism, Sport and Leisure, Hospitality and Catering, Business and

Management, and Hair and Beauty Therapy. This center was completed in 2005 and is

the largest of the five ILCs.

A day in the life of teaching in the ILCs. As one class leaves (after about an hour of class

time in the ILCs) another class of students walks in with their teacher. The teacher is

immediately flagged down. A student sitting beside me also raises her hand. The teacher

is busy. The student opens her book and sighs. She reads her project sheet and then raises her hand again. The teacher sees her and says, "I will be right there." When the teacher comes by about 5 minutes later, the student asks the teacher to explain what the project is asking for.

"This assignment has to do with how promotional campaigns helped improve sales. Explain how the promotion relates to other elements of the campaign such as price, where to buy, what to buy." The instructor explained. Then the instructor gave detailed help and pulled up the actual ad to help the student analyze it. The instructor took more than 10 minutes to provide individual help to this student.

Most of the students working with teachers today are Further Education students working on A Level Certification.[3] Robin described her typical work day teaching in the ILC as demanding, more so than the traditional classroom. She teaches 10 different classes, but each class lasts about an hour and a half. She describes her work in the ILCs this way:

> Yes, oh yes, in fact, this is what I find very demanding because it's teaching almost on a one to one basis. Because each time they've got a problem, they'll say, "Oh, (Robin), what about this and what does this site mean?" So I'm going around... I have them grouped together and I'm going around and I'm trying to... I'm trying to see everyone in turn. My aim is always, in each lesson, to see every student... to see where they've got to in the work that they're doing. With smaller groups, obviously it's easier and I can spend more time with them.

The main duty of the teacher consists of creating the lessons, setting up the assignments on the VLE, and then giving them guidance to resources. Robin explains further:

> Well, I set the work. I set the assignments. I give them class instruction. I give them reference materials, handouts, sources of information they can come to.

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[3] A Level is the two year certification required to progress onto university. I would equate the A Level to an Associate Degree in the United States.

Then in the class time that remains, I expect them to be getting on with that. I give help and guidance, but they do have deadline dates. So the expectation is that they will complete, do additional work outside of that class session, yes.

Teachers report that students prefer the Internet when searching for information, but sometimes, information can easily be found in books and magazines that are specific to each ILC. According to a 2003 college report, there has been an increase of library materials usage since the ILCs were implemented. Approximately 71 percent of the students indicated that they use printed learning resources, a rise from 62 percent over three years.

Stephen explained how he enjoys teaching in the ILCs because the students are able to seek out information for themselves and draw their own conclusions instead of having the teacher lecture them. He talked about an example of teaching art students the concept of beauty. "Beauty is a cultural concept, it's not hormonal, as one might think," he explained. He said he can tell the students that, but for them to really learn it, they have to draw this conclusion themselves. So, he has them compare the concept of beauty across different cultures. In America, you have to be super thin to be a model, he explained. But, in the Middle East, to be plump is beautiful, because it means you come from a wealthy family and you are healthy. And, healthy women are more likely to bear healthy children than thin, emaciated women, he noted.

The teachers report that the Virtual Learning Environment (VLE) and resource-based learning, in general, is a convenient way of keeping track of student work and helping the students. The personal tutors, who keep track of student progress, as well as most instructors, use the VLE. Although not all instructors have adopted the use of the VLE, those who have, find it very convenient. One faculty member remarks:

As far as research is concerned, as a lecturer it forms our tutorial for the student. And you say, "Why are you spending so much time in this field? Maybe you ought to look more at this area. Your personal development shows that you have weaknesses in this particular sector." I can assign post learning products which can support that. So I think it puts the tutor in a much more efficient focus to the way which he or she delivers to an individual student.

Some faculty members schedule certain days within the ILC for when they will be available to help students with their independent work. Stephen, an instructor who uses the ILC in that manner explains:

> Well the theme was basically that... (papers rustling) it's I've got this (more papers rustling) on Power Point which basically is explaining what each word is what's it's for. When they when they read words like "assess" or "describe" or "discuss and evaluate," that's what they are actually looking for and I do a discussion of a lecture on something based on that....Then they will go away and then they will start their research on their personal projects of their choice.

A class of students and a teacher enter a classroom set off to the side of the ILC. During the day, several classes use the Smart classrooms located within the ILCs to debrief their class before sending them to students' individual computers. Similarly, April explains how she starts her class off in a regular classroom and then brings them into the Atrium ILC.

> I bring them in for...I see this particular group twice a week for an hour and a quarter and I don't believe they meet every week for each session, but I will probably bring them in. Today I had about twenty minutes upstairs in a classroom, explaining what they were to do and how they were to do it. Giving them some web sites and stuff which they wrote down and then they came down here (ILC) for an hour, no, forty-five minutes.

During the observation of another ILC, I noted that not all teachers use the ILC for inquiry-based learning and research. For example, in the Technology ILC, I observed an instructor give a lecture about automotive repairs. He lectured about master cylinders using a PowerPoint presentation. Then he had his students use fill-in-the-blanks exercises. This was an exception to all the other observations made in the ILCs. Most of

the instruction is project or problem based, and involves researching and higher order thinking skills.

<center>Conclusion</center>

Ward-Smith College prioritized the integration of curriculum and student services for learning by making student-centered learning their main goal. In its seven-year-phase, the five ILCs were established as part of an incremental change process. The ILCs hold a prominent position in the college, and as such have become the central part of the college in the process of change to a learning college. With its centralized matrix system of management of the ILCs, and its decentralized physical environments, it provides flexibility both in terms of student learning as well as management and administration. As illustrated on Chart A, each division and hierarchy level reports through regular discussion meetings with departmental representatives to feedback and loop up and down the chain of management. There is thus a very close integration between strategic development within the ILCs and the college, melding information technologies with other resources as well as curriculum and instruction throughout the entire college.

Ward-Smith College (ILCs) has been recognized as a Centre of Vocational Excellence and has been studied by other colleges for its innovative technology use (Weeden et al., 2004). Since its inception, more than 20 visits from other colleges interested in their model, have put Ward Smith on the map. Recently two other colleges have emulated this exact same model, making Ward Smith a trend setter. From the perspective of the managers of the institution, the ILCs serve as a model of curriculum delivery suited for the Knowledge Age. Visitors can see that it is indeed a learning college where student-centered learning is taking place, and all efforts have been focused

<center>81</center>

on serving the needs of the students. Most students enjoy learning in the ILCs and the

few students who prefer traditional learning seem to be the exception to the norm

compared to the vast numbers of students who do appreciate it.

CHAPTER 5

Presentation of Findings

Patterns and themes that arise from interview data reveal that the majority of the faculty members hold beliefs about teaching and learning that fit the characteristics of experiential and student-centered learning. However, because the ILCs create an environment where faculty facilitates student-centered learning, instructors feel de-authorized and disempowered. The faculty members believe that their authority as subject-matter experts is being impinged upon. As recent funding cuts have necessitated layoffs, and work life changes, these feelings have increased. Therefore the faculty expresses feelings of ambivalence toward the ILCs. These perceptions are apparent as I explore data about the following: 1) the historical context of the ILCs' inception, 2) external policies, 3) funding cuts, and 4) the resulting climate of the college.

In this chapter, I present data about faculty beliefs and perceptions, their actions and work-environment tensions in two parts. Part I will present the context of the teaching and learning by presenting a description of the work life in the ILCs. This part will also explore the types of actions faculty take toward the ILCs by including data about patterns of faculty usage of the ILCs. Then Part II will explore faculty's underlying beliefs and commitments to teaching and learning with particular attention to their work life in the ILCs. First I will address their perceptions that reveal the tensions of working within the ILC environments. Then I will explore issues that contribute to these tensions by showing how the ILC empowers students but de-authorizes faculty. The chapter will then conclude with a summary.

Faculty Profiles

The characteristics of the faculty participating in the online survey are in Table 1, 2 and 3 which is listed on pages 84-86. Table 1 shows that about 64 percent of the faculty are female. About 30 percent of the respondents work part-time. About 70 percent of the faculty members surveyed have been working at Ward-Smith for at least 5 years or more. Approximately 39 percent of the faculty members have been working at Ward-Smith College for more than 10 years. Approximately 50 percent of the faculty surveyed has been using the ILCs for at least 4 years. According to Table 2, about 74 percent feel either "very comfortable" or "comfortable" with technology. Ironically, of the two faculty who feel "very uncomfortable" with technology, one uses the ILC for about half of their teaching time, and the other uses it for all of their teaching time.

According to Table 3, there are about equal numbers of faculty who use the facilities for all of their class time, one quarter of the time, or just for assigning work outside of class. A smaller percentage of the respondents said they use the ILCs for half their class time. There are a few who still do not use it at all for various reasons. Some teachers send half or a quarter of their students into the ILC while they hold class with the rest of the students. The students who are assigned to go to the ILC often work in groups to do research on certain subjects and then report back to the class. Other teachers assign one group at a time to go to the ILC to do group work on the computers.

There is no distinct uniformity across various departments in usage patterns, (e.g., Table 2) except in the Art and Design Division. In this department, the students are acquainted with ILC's technology and resources in the first year by attending classes that are held largely in the Centres with the faculty present. In the second year, the students

are expected to learn independently without the teacher present. Students work in the ILCs with assignments from the teachers and guidance from the ILC staff. Both the survey and the interview data show that the Construction division has the largest percentage of faculty who use the ILCs for all of their teaching time.

Faculty who were interviewed came from various departments at Ward-Smith including the following: Technology, Art and Design, Education, Sociology, Theatre Arts, Cosmetology, Construction. Almost all faculty members held Masters Degrees, and one had a Ph.D.

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PART I
Faculty Beliefs about Teaching and Learning

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In this part of the chapter, I will explore the beliefs faculty hold about teaching and learning in general. This section will include faculty beliefs about resource-based learning, beliefs about students, and beliefs about their aims of instruction. I will then examine how these beliefs are carried out in the ILCs. I will also explore what they believe to be their role as a teacher and how they carry out that role.

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Students are Empowered

</div>

Kinds of Learning

The goal of the ILC is to be student-centered by providing ample support, resources, and the means to carry out the process of learning for oneself, according to the management staff of the ILCs. Learning should be experiential, active, and students should learn through researching for information, discussing with each other, and by engaging in critical thinking. Most of the faculty members define learning using similar terminology such as "experience, research, develop," and "for themselves." For the most part, faculty members do not seem to be having difficulty accepting this concept of teaching.

Table 1.
Demographics of Faculty

Gender	Time	Subject Taught	Number of Years teaching at Ward-Smith College	Number of Years teaching in the ILCs
Female	Full	Early Childhood Studies	10	least_1
Female	Full		blank	zero
Male	Full	Computing subjects	4	least_4
Female	Full	research and information skills	2	least_3
Female	Part	Dyslexia and literacy support	3	zero
Female	Full	IT	10	least_5
Female	Part	I.T	5	least_2
Female	Full	E-commerce, Personnel, Communications	10	least_6
Male	Full	ILC staff Library Assistant	1	least_1
Female	Full	IT	5	least_4
Male	Part	Mathematics, Science, Statistics	10	least_3
Male	Full	kEY SKILLS COMMUNICATION, IT, NUMBER	6	least_4
Male	Full	Performing Arts	10	least_3
Female	Full	Information and Study Skills - informally	10	least_4
Female	Full	Computing	2	least_2
Female	Full	Supported Learning- accross all areas	10	least_6
Female	Part	Early Years	1	Less_1
Male	Full	Finance and Accounting	10	least_6
Female	Part	Early Years Education	8	zero
Male	Full	Construction	3	least_3
Female	Part	ILC Staff Library Assistant	10	least_4
Female	Part	Several within the range of Health and Social Care	1	least_1
Male	Full	IT	5	least_5
Female	Full	Russian	1	least_2
Female	Full	computers /learning support	5	least_4
Female	Full	IT and Basic Skills	10	least_4
Female	Part	Ancient History	5	least_5
Female	Full	information skills - searching, referencing etc	8	least_3

Table 1 (Cont'd)

Female	Full	Teacher Education	10	least_3
Male	Part	enterprise, management, finance	10	least_3
Female	Part	I am a laboratory technician	2	least_2
Male	Part	IT - Photoshop	10	least_6
Male	Full	Construction	blank	Less_1
Female	Part	Learning tutor ILC staff	blank	least_4
Male	Full	Construction management, science and technology	5	least_5
Male	Full	Construction management, science and technology	5	least_5
Female	Full	Business and Economics	10	least_2
Female	Part	Skills For Life	8	least_6
Male	Full	Statistics, Artificial Intelligence	5	least_5
Female	Full	Marketing, Human Resources, Management	10	least_3
Male	Full	Arts.Design and Enterprise	7	least_4
Female	Full	Business Administration	10	least_5
Female	Part	maths	6	least_2
Male	Part	PE. Sport Tourism & Customer Service	10	least_6

Table 2.

Faculty Profile: Comfort Level and Usage of ILCs

Totals	Comfort Level	Assign Indep Work	Quarter class time in ILC	Half class time in ILC	All of class time in ILC	No usage	None Selected
17	Very Comfortable	3	3	2	8	1	0
14	Comfortable	5	4	2	0	1	2
9	Somewhat comfortable	3	3	1	1	1	0
1	uncomfortable	1	0	0	0	0	0
2	Very Uncomfortable	0	0	1	1	0	0
2	None Selected						1
	Totals	12	10	6	10	3	3

Table 3.

Faculty Profile: Subject Divisions and Usage of ILCs

Usage of ILCs by each Division						
Technology ILC	Social Sciences ILC	Service Industries ILC	Construction ILC	Art and Design		totals
2	2	4	1	3	Assign Independent work	12
3	4	3	1	0	Quarter class time in ILC	10
3	0	1	2	0	Half class time in ILC	6
0	2	2	5	1	All of class time in ILC	10
1	1	1	0	0	No usage	3
0	0	3	0	0	None Selected	3
9	9	13	9	4	**Totals**	

Generally, student-centered-learning seems to match the common descriptions we hold in the United States. This perspective says that a person's prior knowledge must be activated, and so learning is based on past and present experience. Learners are actively engaged in their learning by themselves and with others. In other words, the process of learning is important. Most importantly, the teacher is a co-inquirer and a guide-on-the-side, rather than the information bank or the lecturer.

Experiential learning. Most of the faculty seemed to associate the students' experience as part of the learning process. Madonna, an art teacher explained it this way:

> Well, learning is an experience for me, first and foremost. I think undergraduate learning is different from post graduate learning. Then still to a life of learning is something different as well.

Violet, who works in management, teaches mostly higher education students as opposed to further education students. Her explanation about learning reveals that she thinks of teaching as providing guidance and that students should learn from researching on their own, sharing with others, practicing in real-life situations, and then reflecting upon that learning. While she places importance in allowing the student to think and learn for themselves, she wants the students to go out and practice in real-life settings and then reflect upon that practice. Violet described learning as:

> It's not about teaching. It's about what students gain from the experience. Lots of assessment notices that we've introduced into the Foundation Degree are then doing some research and then explaining their research to the other members of the group by presenting or presentations at seminars. By them actually practically going out and doing things that they all are involved in placements and they reflect on what they're learning from that experience, rather than standing in front and delivering information.

Several teachers mentioned how they know from research that students learn better when they are actively engaged in learning. Violet said that her teaching has changed since reading research about learning.

> The thing I think of is research. I think there's been a major shift from the very didactic module of teaching where they just think what they have to do is impart information. Lots of the recent research is looking at how much more effective learning is when students teach others and when students are actually participating in what's going on actively.

Project/problem-based learning. Project and problem-based learning have become associated with a way to instill life-long learning skills (Torp & Sage, 2000). This type of learning helps students develop higher order thinking skills while they engage in active learning. Faculty at Ward-Smith seemed to know these values. Stephen, a faculty member who teaches in the Humanities Division described the importance of acquiring skills to research and analyze through project-based learning:

> It depends on whether they got... when you talk about research skills, of course they will. They'll be with them forever. They will actually know how to research. Where they will actually have developed skills of cognitive thinking, analytical skills...

Hank, who works in the Arts and Design Division, seemed to think that learning involved skills that arise from problem solving. He also emphasized the ability to transfer information to real-life situations; he also seemed to stress sense making and processes of learning. He said:

> Learning is where an individual or a group are acquiring knowledge and information and then being able to assimilate that information and apply it to future issues, problems, etc. So learning is the acquirement of problem solving, knowledge to be confident in the way in which they analyze and synthesize particular situations that maybe were to happen in their career but also in a personal situation.

Inquiry-based learning. While no teacher was clear-cut in any one perspective about

what learning was, several emphasized the role of inquiry and learning to think critically.

The faculty described learning as understanding and being a critical thinker. They

seemed to associate questioning and reasoning abilities with important traits of student

development. Robin, for example, said learning is about developing an inquiring mind.

She describes learning as the following:

> I would have thought, and again I can only talk about how it relates to my own
> subject area, learning at its basic level is having awareness and understanding of
> knowledge of information. But learning is also, I think, about being able to
> critically appraise that. Being able to think about where it's being sourced from.
> Why that matters? Whose opinion? What impact that will have and upon whom or
> what organization? So learning, to put it broadly, is very much about developing
> the inquiring mind. I would think, yeah.

Transmission-based learning. One teacher in the technology department has a more

traditional perspective of teaching because his teaching involved a content-centered

approach in which students acquire information for testing. When asked to define

learning, Michael said:

> Learning? Oh learning. All right, learning is taking something in, evaluating it,
> and then explaining what it is in your own way. That matches what they've taken
> in or putting another view on it. So the information has been, sort of like,
> assimilated.

During the observation, another teacher in the technology department seemed to

hold a similar didactic perspective. This teacher showed PowerPoint slides about engine

parts and then had students find important terminology definitions by doing fill-in-the

blank exercises.

Many faculty described learning in terms of outcomes and aims of instruction. Some

described aims in terms of their views about learning. Some described their learning

aims apart from their perspectives about learning.

Transfer to workplace. Quite often faculty referred to the needs of the workplace. Their

concern seemed to be with the need to prepare their students for employment. Stephen,

who described inquiry-based learning through research, described the aims of instruction

as:

> ...they will actually have developed skills of cognitive thinking, analytical skills
> which a lot of employers are looking for. ...People who can actually look at
> information and analyze it and draw conclusions from it.

While some faculty emphasized learning as an end in itself, others described

learning as a goal of finding a job or becoming certified. They seemed to look at

education as a process of training people to suit the job market. Robin said that her

reward is seeing students get a qualification (certification) and a job.

> When you see students progress and are obviously pleased at what they've
> achieved and ultimately that they're able to get a qualification and a job. That's
> very rewarding.

Developing thinking skills. Others talked about developing student's thinking skills such

as being able to process information and think critically on their own. Stephen aspires to

develop his student's reasoning and problem solving abilities. He also seems to

individualize learning by allowing students to find things out for themselves. When

asked about how he teaches, he explained:

> This is what the University (affiliate) is looking for. This is the criteria. I sort of
> explain things like when they ask a critical analysis. I start to explain things like,
> well what we need to do is compare and evaluate and draw your own conclusions

and come up with your own conclusions and come up with arguments backed with research evidence that you've found.

Faculty Roles in Teaching

Teacher as co-learner. As the role of the teacher changes in student-centered learning from one of teacher to facilitator, likewise in the ILCs, some faculty members seem to note that they learn alongside the students. Instructors both seemed to enjoy being in the presence of the students as well as learning with them. Madonna saw herself as a co-learner with the student when she says that students give her a broader perspective:

> The contact with young people, I think, is one of the really big things in teaching for me, to kind of engage with the students. It's motivating for me as an individual, but it's also interesting to see how they develop in their perspectives and different perspectives and that feeds into giving me a broader perspective on how I see things.

> Janet, who is a teacher in the Theatre Arts, emphasized the co-learning

perspective:

> So, it's not to patronize. It's not to say, "I am the expert. You must look up to me." It's about exploration. What I have is experience and maybe a wider range of reading than them. But my aim is to offer flexible structures in which they and me can explore and make discoveries and if I'm not making discoveries then I don't think it's a full education. It's rote teaching. I might just as well write on a piece of paper and say, "Well this is what I think."

Teacher as motivator. Motivating students is an essential part of teaching, especially in student-centered learning environments where students have to be self-directed. This is especially true for younger, developing students, such as the further education students at Ward-Smith College. Distinguishing her students as undergraduates, Madonna, an art theory instructor, thought that basic principles were necessary for learning but also emphasized the importance of motivating the students:

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Since I teach undergraduates, I think undergraduate learning is about instilling somewhat basic principles... but then also about exciting and motivating students within their topic area to engage. It's about engagement for me, I think primarily.

In addition to regular teaching, many faculty members are also Personal Tutors. They regularly meet with students on a weekly basis to motivate them to keep going in their studies and to make sure that students know what they are supposed to be doing academically. Ward-Smith emphasizes individualized development of the students. Violet explains what a Personal Tutor does:

> "They're responsible for the personal development of a student. So they make sure that the students are socially, mentally and academically on track. A Personal Tutor oversees students' progress and keeps a record of the grades that they're getting and talks to them if the students are having problems staying on track"

Teacher as developing confidence in students. Empowering students to learn is an important theme in the Developmental Perspective (Pratt & Associates, 1998). Several faculty members seemed to be placing an important on nurturing and developing confidence in students. When describing teaching, Hank repeated the importance of giving the experience of learning and having students gain confidence for real-life application. He said:

> Teaching is about, personal point of view, but good teaching is to allow the learner to experience those abilities to acquire information and apply it... It gives them the opportunities and environments where students can access information and practice that information where they feel confident in the way in which they apply those particular skills or those concepts. The way in which they communicate between each other is important also.

Another teacher who used the Art ILC, and used it to have students engage in student-centered learning by conducting research on information, seemed very concerned about the student's ability to be empowered. Janet who teaches in the Theatre Arts Division explained that her mission was to create a better society in which her students have the

ability to think critically against government policy. Theater, she said, has a lot to do

with politics because drama can change society and the politicians know that. She

explained government's actions in this way:

> Which is why I think governments don't put drama on the national curriculum.
> Because they don't really want a thinking populous because it's dangerous. So I
> think it comes from a lot of that.

Janet reflected back in her own schooling days and gave examples from her own

experiences as a student humiliated in school. She emphasized the importance of

promoting dignity in the learner, explaining that she did not get much respect from

teachers growing up. She emphasized that students need the ability to question authority.

To do that, she said requires asking what the students think instead to telling them what

to think:

> And we try to knock that out of them. You see them panicking. You know, what
> if I get the wrong answer. We have to reeducate them and say I don't know, I
> haven't got an answer. I'm asking what do you think? What do you think? I don't,
> you know, I'm interested. I respect your point of view. And what we're saying is
> question. Don't just accept. Don't just accept.

Teacher as facilitator. Although only one faculty member used the actual words

"student-centered," almost all of the interviewees described a facilitative role in which

the students were centered on their own learning. Robin, who said she was initially

hesitant about using technology, said that she has to prod the students according to their

ability. She has changed the way she talks to her students. By asking questions, she tries

to meet the needs of each individual student. Janet who teaches in the Theatre Arts

Division explained that to empower her students, she has to be a co-learner and

facilitator.

But the beauty of the Arts, in particular the Performing Arts, is that we make discoveries together and I'm as fascinated by what we discover and often they are teaching me and they help me. So it's, I know facilitator is often an abused word, but it's facilitating.

The same is exemplified by what Violet said:

I think much more being a facilitator and a supporter than delivering information... And I think our role is providing them with the opportunities to go on an investigation research and to give them a focus really. To help them with that. To support them with that...

Teacher as transmitter. About teaching, Michael, who holds the Transmission Perspective (Pratt & Associates, 1998), explained that he imparts information for testing when he said:

Teaching is imparting your knowledge and the subject matter that you're trying to get across and then checking that the information has been understood by small little test or question and answer.

In the ILC, his students tend to learn about theory by testing. He said, "They do networking, theory. They do lots of practice test on the virtual learning environment. They do lots of online testing." Even when they go into lab sessions, the experiential learning of engaging in practice is tested afterwards, indicating that testing is a high component of all learning.

Yep, so and also for the lab, we go and do something in the lab. It could be making cable and then we go back. So we run through what we're going to do. We make the cable or we do the build or we do whatever and then there's a test set up. So they go from, you know, I run through what they're going to be doing and how it's done and why it's being done. Then they do it and then they go back and then they have a test that just you know. So yeah it's done for that.

Beliefs about Learners

Students not textbook oriented but tech oriented. Faculty tended to emphasize that students are not textbook oriented and that using the computers and the Internet enables a variety of learning styles. Students are very tech savvy. Only the faculty member in Construction Arts felt that his students were behind in technology. All others

felt that students were far ahead of them when it came to technology. As Madonna, the art theory teacher explained:

> Either way they bring the now. They bring the things that are going on today. Really cutting edge stuff. Yes, part of my job is trying to keep on top of those things, but they're much better at it.

Robin, a business and economics teacher, gave several examples where she felt that if it wasn't for technology, her students could not perform well with class work. Robin spoke about a student who could not do a project about progress of home builders in class, but could do it in the ILCs:

> And that student, who is not very academic, couldn't write more than four or five lines of his own and would admit that he could actually come up with a piece of work which showed the link between changes in interest rates, mortgage rates, borrowings and the profits of the house building companies and he was really pleased.

Faculty tended to distinguish between higher education students and further education students. Usually those who teach higher education students talked about giving more independence, and those who teach further education students described their students as needing more time in the ILCs than in the classrooms due to a lack of attention span. Stephen who teaches in the Humanities Division compared teaching Further Education students as requiring more teaching, and Higher Education students as requiring more facilitating. Although in general, the ILCs are used for Further Education students, quite a number of Higher Education students use it in the Humanities Division. Seeing himself mostly as a guide on the side, he said this about learning:

> So, in other words, there's much more instruction in further education and I find with uh Higher Education my role is more as a facilitator for learning. I mainly facilitate and support through tutorials, but I do actually give presentations and lectures on certain subjects. For example, in a lot of the assignments I give I see myself as a guide, a pathway...this is the pathway to lead. This is how to get on with this work.

Students who don't work well in the ILCs. While most faculty praised the use of

technology in the ILCs for teaching, some faculty also tended to distinguish between

students who could work well in the ILCs, and students who had trouble staying focused.

Sharon, who teaches Sociology, described her students like this:

> A number of my students have personal issues that affect their learning. So they
> may not be living at home, financial problems, and lack of support. They may
> have parents who have not moved on to their fee so they're not particularly
> supportive. We have financial incentives in this country. Education makes an
> allowance. So some students come here, not necessarily because they want to, but
> because there was a financial incentive. They're here in body, but not necessarily
> in spirit.

Other teachers often spoke of the lack of control over students who wandered off

to various websites or those who copied and pasted information to hand in to the teacher.

The faculty seemed to be saying that the authority of the teacher can be more easily

overlooked when the computer is a source of information. Sharon explained:

> It's harder to monitor in some respects because they can come down there. They
> are given a task, but equally they could be buying things on eBay. Okay? So
> monitoring that thing is difficult, but the good thing about it is, I'm able to walk
> around and see students on an individual basis.

Michael, a technology instructor, also seemed to hold similar opinions about the need to

control students:

> The loudness really, trying to keep the group quiet, when they're particularly
> excitable, being that this is such a large group. I think they are rolling around on
> the chairs. You know trying to roller skate on the chairs is a problem. I don't like
> that, it's dangerous you know. There are other abusers that drop into the ILC. All
> in all, though, there's no trouble in there. There's never been any confrontation or
> problems. Any problems and we just send the students out if they get a bit too
> loud and excitable.

April pointed out a few of her students who have an attitude problem. She said

they have a short attention span in the classroom, and is not sure of the benefit of the ILC

for these students. So, while the majority of the students do well in the ILCs, a small

group of students lack interest, even though April tries to make it as interesting as possible. April attributed their behavior to their low academic ability level. She tended to think that these students sometimes do worse in the ILCs, because they tend to abuse what they can do with technology in the ILCs:

> They just see it in a way in which they'll cut and past stuff off the net and give you that, which they would never dream of doing with a book. I don't think they would just photo copy a page out of a book and hand it to you. They haven't done that yet anyway.

The Importance of the ILCs for Student Centered Learning.

While April spoke about a few low-achieving students, a number of faculty pointed out that without the ILCs and the technical support available there, student centered learning would not be possible.

The ILCs provide flexibility. Faculty described the ILCs' ability to provide a flexible learning environment. This flexibility refers to the variety of teaching options that are available. Chuck, for example, says that he can teach for individualized instruction while the students are researching on the Internet, or he can also lecture using multi-media if he needed to. Robin's teaching activity also seems varied when she's in the ILC. Depending on what stage the students are at in their project, the way she helps them varies:

> It's an assortment. If they're working towards an assignment, it depends what stage they're at. There might be several tasks in the assignments that they need to do basic research. Some will do the basic research for one task and then try to answer and deal with that task. Others will get all the basic information first and then go on to do the tasks.

Several faculty members explained that the ILCs enabled them to teach in ways they could not before. One faculty member, Violet, who teaches in the Humanities Division and has been using the ILCs for about one year, saw a dramatic change since

she began using the ILCs. She began with the VLE, just using it a few times. Then as

she began using it more and more, she explained how useful the VLE became:

> But this year they are using it much more as a means of discussing issues with
> each other and also for me to get information to them. The other thing I've done is
> set up things like circulation list so I can now send a message out to all of my
> tutees and that's really effective. They use that message system to ask me for
> support and help and guidance on work too. So it's quite effective.

Throughout my conversations with faculty, there was no indication that the ILCs

were meant to be used only in a specific way. Although most faculty members seemed to

use the ILCs to have students process and experience learning, the goal of the college

seems to require a variety of teaching styles. Sharon who teaches vocational students

said:

> If I was being observed in a lesson, I'd have to clearly state my aims and
> objectives with each class. What I will be doing in each class and how I will be
> doing it. They would expect a range of teaching styles and teaching methods.
> They'd expect me to make use of the ILC. They'd expect me to be looking at
> assessing them using different assessment strategies. Not just written strategies.

The ILCs provide the benefits of using technology. Robin was especially proud of one

student who typically did not do well in a traditional classroom. Of him she said:

> I could have given him pages of notes about interest rates. This is what's
> happened. He wouldn't have been able to read it. Normally, he wouldn't have
> been interested. But this way, he found out for himself that he could make the
> links and that was very good. That was recent and that was a great achievement.
> He'd actually carried out an independent piece of research, analyzed his results,
> compared different companies and he was pleased. And that's the sort of
> achievement, which couldn't be done. It wouldn't have happened if we hadn't
> been in here.

Robin, further explained that she needs to use the ILCs because the students are

unable to sit still in the classrooms for very long. She said with technology, students

focus better. Chuck explained that even though the technology is not always reliable, the ways students learn is only possible because of the ILCs:

> But generally it's positive. Without the computers it wouldn't enable me to... I wouldn't be able to do this group work with the students and then they go off and you know.

Hank, in the Arts and Design division pointed out the numerous ways the ILCs have a made a difference. He talked about the accessibility of information in comparison to 10 years ago and how the learning materials have improved quite a bit today:

> Cause I can actually now point them in directions where it was inconceivable ten years ago. So the learner product is much better. The learning materials are a lot better and I think they're a lot broader. The accessibility is much better.

In the ILCs, the teachers are able to track students' learning progress better with technology than in the face to face classroom. Hank also pointed out that student personalized learning is better administered with the tools in the ILCs.

> ...therefore technology makes our administration of the learning contract much more efficient. The administration, before we did it all paper based, now we can see clearly how many hours the student has done.

Violet also talked about how the ILCs enabled resource-based learning (RBL), which uses technology as one of the main resources. Resource-based learning is when students use learning materials such as books, computers, the Internet, videos, CDs, and other materials for learning. Violet explained how RBL is important in the ILCs.

> I think we have made a much more sort of concerted effort to look at RBL, when we've been looking at other issues, than we did before. So when we've been discussing anything, we would be saying, "Well could we use the ILC for that? How can we incorporate resource learning into that?

Several faculty centered their use of the ILCs around their students' enthusiasm for the atmosphere that the ILC provides. One technology instructor, Michael, exclaimed:

The environment (where you teach) does matter, but the ILCs are really great. It's got a great feel about it. It's really open and the students seem more relaxed, I think. They are more relaxed in the ILCs.

The ILCs provide good learning support to faculty. Initially, as faculty used the ILCs,

they began to see the benefits of using technology in their teaching, as well as the

benefits of receiving much support from the ILC staff. Robin who describes herself as a

late comer with technology explains:

> One, I'd have to say, would be my own limitations (with technology) and I'm honest about that. But on the other hand, in this particular ILC, and I think it must be the same in the others, there's good technical support. There are people that I can ask, that students can ask. So I feel that's gone quite a long way towards compensating.

Violet talked about how her division is time-tabling (writing into schedule) all

classes into the ILCs with teachers coming in with the classes. She said it has created a

good relationship situation between the ILC staff and the faculty as they help each other

out:

> These are special ILC lessons, where the teachers are here as well. I think that's been very good for building relationships between the teaching staff and the ILC staff. Because the ILC staff has been involved in those sessions and I think that's been quite positive.

Michael, who teaches in the Technology ILC said the support and the resources

available in the ILCs are great:

> It's a fabulous resource, the books are there. The staff is fantastic. The resources, everything there is geared up for the students. It's a fabulous resource. You know, couldn't do without it.

Others also talked about how the support staff in the ILCs makes their job easier. This is

an important factor to note, because this is only one side of the relationship between the

ILC staff and the faculty. There is also an underlying negative tone from the faculty

towards the staff, as will be discussed later in this chapter. Stephen explained about how

support for his special education students makes his work life easier:

> For example, if I've got a student that's really struggling through say dyslexia for example. We've got a team of people here who can actually help them or if I give them some work to do and they are struggling with it. Instead of coming back to me and crying saying they can't do this, we've actually got people who we can refer to here. Who have been absolutely fantastic, who have been stars.

The enthusiasm for the ILCs seemed to stem from top-down as well as from

within the ILCs. For example, when a head of division was supportive, a lot more

teachers seemed to use the ILCs. An ILC learning tutor, Jane, explains:

> Then within service industries in our original center, the Head of Division was supportive and she time tabled lots and lots of classes in the centers. So that's how they started off. Then the students enjoyed coming in. The staff enjoyed coming in.

Conclusions about Teaching and Learning in the ILCs

I have presented the teachers' beliefs about teaching and learning in general, and

within the ILCs. The teachers' beliefs show that the ILCs help them follow their

underlying beliefs about teaching and learning. Most faculty members believe in student-

centered learning and use the ILCs to allow students to actively search out information

and solve problems. They also seem to be co-learners and facilitators of learning.

Moreover, the ILCs allow varieties of teaching styles. So, although most of the faculty

may structure their teaching to include the resources in the ILCs, the way they carry it out

differs.

A few faculty members, like Michael, place a heavy emphasis on online testing.

Though the context of the ILCs affords process-based learning, his emphasis is on

learning content. And from my observations, I saw one teacher use "fill-in-the-blanks"

as a learning activity on the computer after a PowerPoint presentation in the seminar

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room. So, although the environment was set up for student-centered, experiential

learning, not all learning is delivered in this fashion.

For the most part, data reveal that patterns of beliefs and the ways of teaching

seem to empower students. Students not only say they enjoy working this way, the

teachers also seem to agree that this is best for the students. Of course, as in traditional

classrooms, there are always students who don't stay on task, and this is also evident in

the ILCs. Regardless, the teachers seem to show dedication to their students and to their

profession. The section about faculty beliefs about teaching students can best be

summarized by Hank who, speaking as a manager who works with a curriculum team,

said:

> We look at how we mold curriculum in order to get the best for that learner. The
> learner is always our number one priority.

In the next section, I give another faculty perspective of the ILCs. This includes a

brief overview of how external policies have affected the faculty's work in the ILCs.

Then I will address how funding cuts have affected the climate of the college. All these

are issues that seem to have de-authorized and disempowered faculty.

Part II.

Faculty Beliefs about Their Work Environment

Faculty Feelings of De-authorization

While these perceptions reveal positive beliefs about teaching in the ILCs, the faculty

also holds negative perceptions about teaching in the ILCs. While faculty believes the

ILCs are great for their students, there are several factors working against the quality of

their work life. They believe that the ILCs take their teaching jobs away and give them

more work loads in other areas. So while the faculty feels that the ILCs are empowering

and authorizing students to learn, at the same time, the ILCs are de-authorizing their teaching ability and their subject-matter expertise.

Reduced teaching hours per class. As faculty teaches in the ILCs, less and less student contact time is given, per class. A government policy that requires certain amount of seat time to be clocked as learning hours says students must have supervision, but not necessarily by a teacher. A manager and teacher explained it this way:

> Those Guided Learning Hours are reducing. So they're giving us less hours to deliver our curriculum. So the college is... The idea, collectively, is that if we can make the learner more responsible and create an environment which allows them to learn on their own, we don't need so many tutors (faculty).

The result is that as class time with the teacher becomes shorter and shorter, some teachers are let go. They are not replaced, and the remaining teachers end up taking on more administrative responsibility, as well as teaching more and more shorter (teacher-student contact) classes. One teacher seemed to reiterate the underlying complaint most teachers had:

> And there has been an impact upon the rest of the teaching staff. Staff have been asked to, certainly to cover more and to work differently... to actually put two groups together, or to use the ILCs more, it's been suggested. In some cases that's appropriate. Perhaps other places less so.

Robin explained that these pressures have become progressively worse in terms of funding cuts, and teacher-student contact time became shorter and shorter.

> It has got worse because this college, along with others, has had to look at its staffing requirements. Areas where we do not get as many students as we would like, we would target and aim for. We've had to reduce the time that the member staff has with those students. So by its very nature, it means each teacher is seeing more groups because they have less time with each group. So to fill that designated contractual time table, they've got to teach more different groups of students, yeah.

Stephen also observed that his teaching hours keep getting cut and that the ILCs are an excuse to cut teaching hours.

> And there's also a threat. A lot of teachers felt threatened by the fact that the managers would use this as an excuse to cut teaching hours and indeed they have and indeed they have. There's absolutely no two ways about that. They've used this as an excuse to cut teaching hours. I've found that my hours have been cut year on year end, all the time. So there is definitely an element of that. So there was a lot of resistance in that sense.

Another teacher/manager who watched the ILC change process believes that when classes were combined, teachers began to resist the ILCs because faculty saw the implications of using the ILCs:

> That's part of the argument for the resistance and that was bad marketing. There are efficiency gains, very common, because you could in this environment, you could have forty students and one teacher. Provided you have the learning materials set up. Provided the ILC staff are well briefed and they know what's going on. So one teacher, if you like, is now taking two classes, so we've got one teacher instead of two.

But then teachers lost jobs during funding cuts. Bad marketing and the way management handled the situation led to more feelings of insecurity. The same teacher/manager described how classes would be combined and then one of the teachers would be let go. Chuck explained how this has made other teachers insecure:

> So there is a perceived threat. I don't know whether the reality exists or not. Some people believe that the managers will eventually make them teach more students in the same amount of time. So there is that fear.

Overtime work, no pay. As some faculty are laid off, the remaining faculty work extra hours that they do not get paid for. In fact, almost every single faculty member had overtime with no pay as their common complaint. Faculty seemed indignant about the level of stress and overtime work involved in teaching at the college. April explained how stressed and overworked she feels:

Because we have less hours to do what we did before, some things we are now expected to do without time allocation. Well, when I say without it, I mean, it's not an identified time allocation. It's an assumed expectation within your overall hours. I would say there is never a week when I'm not working for at least two evenings and there's never a weekend where I'm not spending between five and eight hours.

Sharon who teaches 23 hours a week said that she also does other duties like visiting and personal tutoring. She said she puts in lots of hours for which she is not paid. Likewise, Violet said that although she enjoys it, her job is really two jobs in one with no recognition or credit for it:

> It's actually two jobs not one and that's the problem. So what the designated hours are bears no reflection to what I actually do. In terms of the hours I work.

Heidi, who teaches business administration, said that she works extra even though she knows she's not paid for it. She is timetabled (paid for) 23 teaching hours, but she actually has 27 contact hours with the students. The extra hours are time she voluntarily spends with the students, because she feels they need her help. Heidi explains how this problem is partly because of the government's reliance on resource-based learning:

> We have a resource based learning model which means it lets you have so many students per course to make it financially viable and for every class of students you (log) down minutes on a course. So they combine smaller courses and instead of having more hours for those students, as a teacher it (knocks) your hours back.[1]

Increasing responsibility. As teachers taught less per class, they were given more roles to play. Most of the teachers teach as well as administrate. The latter might involve becoming a Personal Tutor and keeping track of student progress. Or, it might mean that they help coordinate curriculum. Robin explained her multiple role this way:

> Because I'm a full-time member of the teaching staff here, obviously the main part, as I've mentioned to you, most of my job is teaching. But full-time members of teaching staff are also expected, to a greater and lesser extent, to have other

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[1] The parentheses indicate places in the recorded interview where the words were not clear.

duties and responsibilities. So I am in charge of a program. I am responsible for all the registering, enrollment procedures, financial arrangements, personal care...

Hidden agenda and tool to cut cost. Stephen, like many others expressed both positive and negative feelings about the ILCs. While he really appreciated the staff and felt that students learned well in the ILCs, he fears that the ILCs are a tool to cut cost, and will continue to be. Despite this, he feels the ILCs are necessary.

> That's my only negative thing about the ILCs (people getting fired), but the positive thing is I think they're fantastic. And I think they should be. My fear, again, is that the accountants in the place will see it as a tool to cut cost again and will cut teaching because of it, which they have done. There's no denying that, they have done it. I still don't think we should let that fear stop us from moving forward with it.

One faculty member went as far as to say that there's a hidden agenda within the ILCs to take faculty work away. This instructor who uses the ILCs less now, said:

> ... I have the knowledge of the intentions of the Guided Learning Hours as it relates to the ILCs. There is a hidden agenda that might possibly be bringing Guided Learning Hours into the ILCs and (is being downplayed).[2]

This same teacher also praised the ILCs for allowing students to learn the way latest research says is better for them... by researching and finding information and making sense of the information. But, she said the fact that teachers are often not present degrades the quality of learning.

Undermining subject-matter expertise and de-legitimizing content knowledge. Although the ILCs have cut teaching hours per class and increased faculty workload by either adding more classes or by adding administrative duties, the faculty worry that students still need subject matter expertise. Like Heidi, other faculty chose to work extra in the ILCs even though they are not paid for it. Janet who teaches in the Theatre Arts Division

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[2] The quote is in parenthesis because part of the recording was not clear and the words were filled in from my sense making.

explained that she teaches more than she is paid for because she feels that the quality of learning is affected.

> You can't deliver the course in the hours they give you. So you have to do more, but it's not down on time table. You look at the timetable; you've got a two hour gap between teachings. No, you haven't got it. It's just not possible to get by. You know, there are certain courses that are more suited to setting a brief, sending the students off. They go on research. They go on the net. They do whatever. They come back. They present their findings.

Stephen who used to be curriculum manager said that, "the title (curriculum manager) was then taken away from me, but the job wasn't. But if no one manages the curriculum, the whole program would be a mess." So, even though he is not paid the salary of a curriculum manager, he still does the work of both the curriculum manager and teacher.

April also talked about the need for faculty expertise when she described how it is impossible for support staff to know the whole range of subject areas. She said that the staff could not possibly cover every aspect of the assignment because that requires subject matter expertise and content knowledge:

> I mean there is a very broad range of subjects that are actually covered within this division. This ILC staff would have to know everything from catering to third year degree Business Administration.

Violet talked about the need for more faculty time with students in the ILCs. She said students benefit from individual one-on-one tutoring, but the faculty does not have enough time in the ILCs to do this:

> The recurrent one (problem) is that staff will say, "We need longer hours." So we actually, one of the things that happens is that the tutors will use the time when the students are all engaged with doing something with the computers, to see students for individual tutorials and they need longer than there is to do that really.

While faculty praised the staff for their help and good work, on the other hand, they seem to feel some resentment that the staff are not qualified to teach, but are allowed

to sometimes teach. A sense of mistrust over ownership of content and expertise underlies some complaints about the staff being allowed to teach. Faculty seemed to expect that ILC staff is there to support the students in terms of accessing knowledge, but not necessarily to teach. The faculty seemed to separate this activity from teaching content. As one teacher/manager said:

> I mean they (ILC staff) are here to support the students, but they're here to support them from the point of view of accessing knowledge. Whether it's books, journals, web sites. They're here to help them with the technology of it, yes. How much that directly links back into the kind of formalized learning that students on a program with assessments have to do, I don't know.

Stephen, who has been working at Ward-Smith for more than 15 years, seemed to think that lots of problems stem from financial issues. Blaming partly the government's role in putting pressure on the college, he also hinted that there was some mistrust between ILC staff and faculty when he said the following:

> We've got instances where some staff have been asked to teach who are not teachers. Some ILC staff have been asked to teach who are not teachers. And they're asked to teach, but they're not getting paid teacher's grade. So there are all sorts of issues to deal with finance and I think, you know...

Sophia, who is a librarian, also expressed some friction with the faculty when she said that sometimes instructors abandon students in the ILCs and leave it up to the ILC staff to help them with everything.

> Sometimes they'll say (to the students), "Okay go down to the ILC," and then they sort of abandon them there. But I don't think that happens too much here. I think it does in the others (ILCs) a little bit.

Faculty Perceptions of Worklife Change

Initial introduction of the ILCs to faculty. In any new endeavor that affects faculty, in order for transformation of pedagogy to occur, faculty has to have ownership of the change. For the most part, faculty perceives that they were not involved in the decision

to create the ILCs. Only one faculty member, Robin, said that although she was not involved in the decision to create the ILCs, she was invited to list what she would like to see within the ILCs.

> No, I was not involved in the decision to have the ILCs. I feel that was taken at a higher level. I was kept informed, as all teaching staff were, of what was planned. And very early on before the format, the actual layout was agreed, all academic staff who were interested were invited to meetings and I had the opportunity to talk about what I perceived, what I thought would be useful for my teaching and my students.

When asked if she remembers what she had requested as items within the ILCs, she said she requested computers for both booked and drop-in access. She wanted written materials such as newspapers, and such, updated regularly. Provision of tables and quiet study areas were also requested. All these are found in the ILCs today.

Another faculty member, April, affirmed that the faculty was not involved in the decision, but others may have been involved:

> We weren't involved in the decision to, you know, in the strategic decision of the organization to move in that direction, no. Well, I wasn't. I mean, some of my colleagues might have been.

According to the Director of the ILCs and the head librarian, the faculty was informed about the decision, had numerous meetings to which they were invited, but many faculty members did not attend. The Director postulated that the reason for low attendance was due to faculty not having much time to attend the meetings. Lack of time was attributed to faculty with too much responsibilities or part-time faculty who are rarely on campus.

When the first ILCs were introduced to the college, a select group of faculty was time-tabled to be in the ILCs. Their function was largely for public relations purposes, and not for teaching. Their job was to be in the ILCs and tell others about using the ILCs

for instruction. Students could ask them questions about their work. A learning tutor, Jane, who was also a coordinator of the original concept behind the ILCs, explains:

> They were just sort of, not invited, selected. They were time-tabled. So the line managers would time table curriculum specialist to be in. So when we opened five years ago, lecturers were time-tabled from catering to be in here to just be available. That's how it originally started.

Learning Managers were posted in each ILC to act as a liaison between the ILC and the faculty. By using their expertise in integrating technology into curriculum, they tried to convince more and more faculty to use the technology in the ILCs and integrate them with their own curriculum. As more teachers heard about the ILC, they began to use the Centres. Eventually, it was no longer necessary to time table the original set of teachers because more and more teachers began to use the ILCs on their own.

Resistance to the ILCs. When interviewees spoke about the past, they often mentioned that initially people's reactions were mixed, and that there was some resistance to the ILCs. These included refusal to use the ILCs. Some have aired their complaints in the teachers' union meetings. A head librarian, Jane, who also attended union meetings explained:

> Yeah, there were discussions around the college about the concept. Some people were very positive about it, but of course there were some concerns from lecturers about how it was "teaching on the cheap." So, I've got trade union in my background as well so I was going to meetings where concerns were aired.

When asked to explain what "teaching on the cheap" meant, she said:

> That by taking into the ILCs that, perhaps, the work could be done by facilitators or something, and that their roles would be undermined. That we wouldn't pay for such expensive lecturers in rooms, perhaps. If they could do their work here, it was resourced based learning. So they felt undermined. Some did, not all. But obviously that was expressed to myself as well as some of the staff. But mostly people seemed positive and interested. People came to look at the centers before they were opened and had a look around.

Chuck, an instructor in the Construction Division, who has been working at the college from the initial building phases of the ILCs, says initially faculty had a difficult time adapting to the ILC environment. The ILC environment is very open, making it difficult to confine students in a manageable area. Also, other teachers are present and can observe your teaching, so there is a lack of teaching privacy. Later, more private rooms were added in the ILCs, but the intention was to use them to debrief students on their assignments in the larger ILC areas. However, some faculty just booked these rooms for class time. Chuck explains:

> In the later design versions, we do have rooms that can be shut off from the ILC. You can teach in them, but the hope was that teachers would use that as a launch pad facility. So they would perhaps teach for fifteen - twenty minutes and then get the students onto their individual tasks and go in and use the resources. There has been some evidence that staff might have gone in for several months and just taught an hour lecturing and walk straight out again and not used any facility.

Chuck seemed to think that the process of adoption was very gradual—from faculty reluctant to use it, to now where the majority use the ILCs. Although today, the majority of the teachers use the ILCs in some form, five years ago there was a lot of reluctance. Stephen seemed to think there was resistance because the faculty experienced a culture shock of going from a more traditional system to a more flexible system of teaching. He recalled how the change affected those around him. Stephen explains:

> So my personal perceptions were well, you know we'll just suck it out and see what happens. There was a lot of resistance I think from a lot of people initially because of change which a lot of people find very difficult to cope with because we were going from a culture of very sort of strict guidelines and structures.

Technology problems. Both from the documents analysis and from interviews, it is apparent that in the past, there have been some technology problems with unstable networks and computers crashing. Several faculty spoke about past frustration with

technology, although today, this is no longer a problem. Violet, a faculty member

explains:

> Fine, to begin with, lots of frustration because systems failed regularly and over
> the last year I would say it's been very positive because the system has been much
> more reliable, apart from yesterday. (Laughing) I think I've become increasingly
> confident in terms of using (computers) as a management tool and certainly in
> terms of communication within the division. ... Up until, as I say, we moved over
> to here, it was a much more negative experience because they (computers) let you
> down a lot.

Chuck, an instructor in construction talked about his problems with technology

not working consistently:

> Last week we had a power cuts, first time for a long time, and I was going to do
> an online test for acoustics using a web page where you could pick up different
> frequency sounds and I could do some exercises with the one, subjective listening.
> But I couldn't do it because we had a power cuts. So it was unavailable. So that's
> a bit frustrating.

Power cuts are an external issue, and have nothing to do with internal technology

issues, which reportedly have been working fine for the past year. A teacher/manager in

the Arts and Design Division pointed out that even though computer technology has been

a great tool for learning, there are two major problems with it. He felt that technology is

important but if it doesn't work, students lose trust. He felt that once that trust is gone,

it's difficult to get it back. Also, the need to constantly upgrade software made it difficult

to keep up with technology. Hank explains:

> Students are bitterly disappointed by losing drafts of information. So I think what
> we've learned over the years is that the back up systems have to be incredibly
> tight and that the students are taught how to backup their work prior to actually
> being involved in the technology.

Each ILC has a limited amount of space for whole class teaching. Usually these

rooms have computers and a whiteboard. Because of the limited number available, the

rooms seem to be overbooked. Moreover, some people experience technical difficulties

with the whiteboard. Darleen says she's quite comfortable with technology but can't

always use the ILC when she wants to. Describing how she has trouble with the

whiteboard, she said:

> The interactive Whiteboard is not always working. So it reduces your chances of using it. There is a teaching area where you can show students examples on whiteboards. If you book the room, you can use it, but it's always booked by other people, so it's hard to use it.

Discomfort adopting technology. While these views about technology reveal that

technology's glitches are a problem, there were some indications that others had a

personal disdain to working with technology itself. Sophia explains:

> I don't like looking at a screen. I don't like that your interaction is with a machine and not a person. I'd rather write a letter. I'd rather speak on the telephone. (laughing) Yes.

Hank, who is a teacher/manager in Art and Design, said that there are teachers

reluctant to use technology. Some prefer to stay away from computers because they fear

they will not perform well with technology. Others just say they do not want to deal with

technology. If faculty members fail to do well after professional development training,

they are asked to teach classes that don't require technology knowledge. Almost half the

teachers in Art and Design do not teach with technology.

> The staff say, "Well I'm too old. It's too late for me to learn this stuff." So the second option comes in to course where that teacher isn't involved in delivering technology because they're not equipped to do that. So other teachers do that work and they are put where the best fit is for their skill ability areas. I'd say fifty percent of our staff in Art and Design are technologically competent. The other fifty percent are actually teaching different skills.

Tensions with management and funding issues. Tensions are apparent in conversations

with faculty both directly and indirectly. April, spoke directly about some initial tensions

that were apparent in the beginning, she said these tensions are still apparent today. She

said that before the ILCs were in place, classes were combined and teachers were let go. She fears that same thing is happening through the ILCs today:

> I think it took a bit of sort of batting it down in sense of who was then responsible for what. There was a view that what had previously happened in classes and by teaching staff would now happen in the ILC and by ILC staff.

Amongst some faculty, and division managers, there also seems to be infighting over funding issues, in particular, whether the ILCs are taking funding away from teaching. The funding comes from monies allocated for the ILC technology and monies that each division acquires. According to the Director and several faculty members, there are tensions between the division heads and how money is allocated to the ILCs. April iterates this perspective:

> I think there were probably some tensions in the beginning because it had to be funded from somewhere and I think, I'm not absolutely certain about this, but I think there were some funding issues as well. I think in order to fund it, some of the money had to come from the divisions. So it probably came from teaching time or something.

Darleen, who said she feels pressure from upper management to use the ILCs more, seemed reticent to talk about it to a great extent, and when asked how the ILCs have influenced her teaching, she said the ILCs, "enables you to be more student centered, perhaps." She evoked feelings of tension in the reserved way she spoke about the ILCs.

Worklife change from government control. When speaking about the ILCs, the role of external factors such as policies coming down from the government was in the mix of conversation about what was to be taught and how the instructors were evaluated. The faculty seemed well aware that the government policy is to use technology, and also that

faculty must teach to the way the students are tested. Madonna, an art theory instructor

explained it this way:

> They'd expect me to be using technology because it seems to be one of these busy
> things to be doing and it's something that is required. You know, having to do the
> Teaching Certificate here in Britain has reinforced that. There are government
> agendas and incentives to use technology and engage students through
> technology. So there would definitely be a look at that (technology).

Many teachers were also aware of Guided Learning Hours and the role it's

playing in the way they teach. Hank placed the role of the ILC within the concept of

Guided Learning Hours and said that depending on the type of learning, the student's

time is divided between independent learning in the ILC and teacher contact:

> A good way of describing that is that the qualification will have a certain amount
> of hours associated to it. They'll say this module is 120 Guided Learning Hours
> worth of learning and that's just given as a guide to how much learning should
> take place, how much contact that student should have in the development of their
> learning. Not teacher contact, but how much time they should put into work on
> that piece of learning.

Violet, a Humanities faculty member, put the situation in a historical context and blamed

the government for the under investment of staff:

> Yes, I think it's to do with the historical situation of further education colleges,
> which have been just under invested in for years. So really, we don't have as
> many staff as we need to do the work that we're doing and I think it's a
> government national issue.

Both April and Robin talked about how the government gives least importance to

further education funding. There has been a shift in the funding scheme since the

national government took funding authority away from the local governing authorities

and gave it to a national funding body called the Learning Skills Council. Several faculty

members mentioned how further education is often the "Cinderella" of education. April

explained it this way:

The trouble with Further Education is it's definitely a bit of... we even refer to as it is a real Cinderella in the education world. It's a poor relative. It's not funded in the same way as the, even as the higher education institutions are and as institutions we were incorporated now about fifteen years ago...We are funded through Learning Skills Council....They're always cutting funding.

Like others, Robin compared the misfortune of further education in comparison to higher education, saying that higher education was better off than further education. She also believed that because of lack of government support, FE staff have to work harder and take on multiple roles:

> And the universities have a more glamorous role in providing Higher Education than we do. So I think that Further Education colleges have never been over endowed with financial resources. That obviously has had a not good affect on everything to do with resource allocation. And staff here probably do work longer hours and have to be more flexible and multi-skilled than staff in other educational sectors. So that I think is the nature, the source of the pressure.

Mistrust of colleagues. Due to tight budgets and budget cuts, all faculty members now complained of working too much for no pay, and having to watch their backs because it was a highly competitive work environment. As a result, a general climate of mistrust and hostility seems to exist amongst the faculty and between faculty and management. As one teacher/manager, Janet, explains:

> About ten years ago, we worked together, shared ideas... now we have to constantly watch our backs. There's too much competition. Everyone's afraid they will lose their job.

The need protect faculty's own interests is very high because everyone has to compete with their own work to keep their jobs. So, faculty will not complain about their hours because to complain would mean that their job performance would be critiqued. Janet continued:

> You have to protect your hours and of course there are problems with that, and people won't openly admit this because it's politically dynamite.

Hank, who manages curriculum and therefore also manages seven instructors, remarked that faculty often feel powerless. He said he's trying to figure out how to give them back some ownership to what they do. Here's how he explained it:

> Ya, stuff that is happening recently are that now I am talking to each of the managers (faculty) and redefining their role. They need to have that ownership back because a lot of things have happened. ... Yes, giving them the controls back. They often ask, 'What I control now; there's nothing there.'

There also seems to be friction between the management and the faculty about who gets laid off during budget cuts. One faculty member noted that there have been more faculty laid off than administrators and support staff. Hank expressed resentment at the fact that upper management's offices are covered with "wall to wall" plush carpeting, while the teachers suffer with unpaid overtime.

Teamwork in the midst of mistrust. One of the changes that the ILCs have brought about amongst the teachers is less isolation. Teachers are no longer isolated in their own classrooms, but in the ILCs, they can hold classes with two to three other classes at same time. This is especially helpful to new teachers. So, while some teachers need privacy, others like Robin says that it helps her teaching:

> I have actually talked to, when one student has asked me something specific about reading the financial accounts of a company, and I wasn't sure. My colleague who actually specializes in finance was on hand. So I was able to say to him, "Can you look at this. What do you this it refers to?" Which was good for me, good for him and good for the student. So that is a definite benefit, yes.

Such teamwork is involuntary, and an indirect result of teaching in the ILCs. However, a more intentional goal for the ILC management is to have teachers work in teams to plan lessons and to share teaching responsibilities. While in some departments, such as construction, the team concept has caught on, in most departments faculty work

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alone. When asked about working in teams, Chuck, who teaches in Construction Arts responded:

> Well we do anyway as a team. It's a very small team that we've got. We are trying hard now this year to try and integrate what we're doing. That's the other opportunity that you have with an ILC. You can integrate subjects together and have an assignment which is much more realistic when you bring subject matter together as a matter of trying to solve a particular design problem whatever it might be.

Violet, who teaches in higher education, is also a Deputy Director, responsible for managing curriculum with a group of about 10 faculty members. When directors and managers work with faculty, the team concept seems to work. She described the weekly meetings as work sessions that deal with student issues and help prepare for evaluations. Violet said a lot of meetings are held to discuss student progress and meetings with parents.

> In those meetings, they will partly discuss student issues or any particular causes of retention or achievement. They'll probably look at any administrative issues that need dealing with like. 'Oh we're writing reports this week and next parents evening is at such and such a time.'

Interviews with management confirm that teamwork is essential to the success of this college. Their entire communication system depends on it, and the management believes true integration of curriculum requires teamwork on the part of all teachers. While the matrix communication system seems to be working, the voluntary teaming of teachers do not seem to work well. The original intentions of the ILCs were to create teamwork and have faculty share work. However interviews show that teamwork amongst faculty has largely failed to materialize. In most departments where teachers work alone, the most common excuse given for not working in teams was that they did

not have enough time to plan and work in teams. However, there seemed to be other

issues such as accountability and trust issues between faculty. One administrator said:

> And so for example you've got six people (faculty) sitting at a table to look at a
> program. We need to do this, this, and this. And, two of those people will go
> away and won't do it. So, it actually has a very negative impact on the whole
> program because you know you are saying your job is to prepare six lectures in
> advance which we can put in (into the VLE) as initial briefing for the students.

Thus, because the ILC concept is based on faculty working together in teams,

faculty who don't work in teams have to work more hours than they would if they did

indeed work as a group. The climate is one of mistrust, so it is difficult to work together,

and then because it's difficult to work together, they end up having to work longer hours

and work harder. So, the burden is cyclical.

Conclusion

In this chapter, I have presented findings about Ward-Smith's faculty work life,

their beliefs, actions and the tensions they face in regard to the ILCs. In particular, I

examined their perceptions about teaching and learning in the ILCs. The purpose of this

research was to study the faculty responses to a systems approach of technology

integration for student-centered learning. Specifically, it asked the following questions:

- What actions did the faculty take in response to the Integrated Learning Centers?
- What beliefs do the faculty members hold about the Integrated Learning Centers?
- What are the tensions evident in their responses to the model?

Below I will present a summary answer to each of these questions.

What actions did the faculty take in response to the Integrated Learning Centers?

Interview data indicate that some faculty, in the past, protested against the use of

the ILCs because it undermined their work and the quality of student learning. They

presented their complaints before the union. Their hours for teaching have been cut and

sometimes replaced by ILC staff who the faculty feels are under qualified. They have also seen colleagues who are laid off or who voluntarily quit and are never replaced. The faculty also had to take on multiple roles so they are over-worked and underpaid.

The majority of the faculty members who work in the ILCs tend to believe that teaching should be student-centered and constructive. Yet, within such views, there are also a variety of teaching methods and beliefs. Some use the didactic form of teaching and still others teach as a guide and a facilitator.

What beliefs does the faculty hold about the Integrated Learning Centers?

Faculty at Ward Smith feels de-authorized. I found that faculty, for the most part, value their students as well as their learning in the ILCs. However, I also found that their epistemic commitments vary and that their actions and intentions are not only based on pedagogical beliefs, but also on their beliefs about the ILCs and the working environment it affords. While the ILCs provide support, and ways of teaching and learning that positively affect students, the faculty also notices the negative effects on their worklife from having an ILC. They believe that the ILCs undermine their expertise and their quality of life as a teacher.

What are the tensions evident in their responses to the model?

Therefore, the tensions are evident in the general climate at the college. Several faculty spoke of days when there was more collegiality among the staff, but due to competition from funding cuts, faculty feel a climate of mistrust. Therefore, while management sees that the ILC provides a good model for teamwork and ways to make work life easier, faculty have a difficult time working with colleagues. Because their working environment is highly political and volatile due to funding cuts, their perceptions

and attitudes about working within the ILCs show many feelings of ambiguity. While the ILC meets the needs of students, they also see that many students need more self-control. While the ILCs provide support for student-centered learning, they also see that it tends to take faculty jobs away and create stressful working environments.

In the next chapter, I will discuss what these findings mean and then in the concluding chapter, derive some conclusions from the data.

CHAPTER 6

Discussion

This chapter begins with a brief summary of this research, then discusses the

teaching and learning aspects of the ILCs, followed by beliefs about the faculty work life.

The chapter then brings out the salient aspects of the data for discussion.

Summary

Technology integration involves more than just creating computer labs and

training faculty. Most institutional approaches to technology implementation have failed

to produce lasting changes in pedagogy and learning delivery. A systems oriented

approach needs to address the needs of the faculty and students. The entire institution has

to rally around learning-centeredness in order for successful transformation to occur.

While such issues are difficult enough, higher education institutions today face

many challenges such as globalized competition, funding cuts, and the burgeoning

numbers of students who create a diverse learning environment in the schools.

Technology often is viewed as a cure to these problems, but comes with a high price-tag

and few lasting results. Faculty is often viewed as the key to this change, and therefore

researchers have examined faculty adoption of technology. They found that facilitating

just-in-time support that is ongoing, having faculty work with peers collaborating

together, and creating a reward incentive system are all necessary in order for faculty to

transform their teaching for the learning college.

At an institution in Great Britain, the managers implemented a seven-year plan to

create what they call Integrated Learning Centers (ILCs). They claim to have integrated

curriculum into these ILCs along with library resources, IT resources, and student support

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resources from what was once a centralized resource learning center. Described as resource-based learning, the managers claim that student-centered learning is taking place in the ILCs.

The intent of this research was to ascertain the faculty's reactions, perceptions and tensions experienced within the context of a systems approach of technology integration for student-centered learning--more specifically, in the Integrated Learning Centers at Ward-Smith College. The goal was to scrutinize the ILCs from the perspective of faculty because literature places high importance on faculty responses to technology integration and organizational change. According to Olcott and Wright (1995, p. 5) the most important source of success in technology integration is the faculty. They are responsible for instructional quality control, improvement of learning and the effectiveness of the technology programs. Even though technology integration may be physically successful, if faculty do not commit to the change, the integration may fail (Epper & Bates, 2001).

The research used a qualitative case study approach and triangulated data from an online survey, document analysis, semi-structured interviews, and observations of the ILCs and as well as a traditional classroom. The results show that the faculty are quite devoted to student-centered learning, but hold feelings of ambivalence toward the ILCs.

Part I.
Faculty Teaching and Learning in the ILCs

From the data gathered from documents about the ILCs, from the descriptions provided by faculty and administrator interviews, and from the observations and informal conversations with students, technology seems integrated with learning in the ILCs. Additionally, a paradigm shift from a traditional model of teaching to a learning centered

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way of teaching has occurred. As a model, the ILCs seem to meet the needs of students in the following ways: 1) their need to learn with technology and become motivated to learn with it 2) their need for flexible, informal learning as opposed to a traditional, teacher centered learning 3) their need to learn the process of searching for information, synthesizing information and solving problems (as this is the need of the workplace).

The faculty at Ward-Smith talk about learning with phrases that fit the definitions of the learning-centered paradigm (Barr & Tagg, 1995; Holms, 1999), which include self-directed learning and critical thinking as elements of student-centered learning. The results of the data show that the majority of the faculty members believe their teaching to be student-centered, with faculty taking the role of facilitators. The faculty also believes that technology is a key player in this student-centered learning as students tend to be tech-savvy and become more motivated in the ILCs than in the traditional classrooms. As the faculty confirms that the ILCs make such learning possible, the context of the ILCs seems to provide these types of learning commitments from the faculty. All these beliefs match the elements of a "learning college" paradigm. In this section, I will explore and discuss these beliefs further.

Faculty Beliefs and Student-Centered Learning

The term, "resource-based learning," (please refer back to chapter 4) was frequently stated in Ward-Smith College's documents. Sometimes faculty and administrators referred to resource based learning as the type of learning occurring in the ILCs. The ideas behind resource-based learning blend well with research that states students learn best when they own their learning, collaborate with their peers, and learn to

think critically. And, in endorsing such learning, the learning college paradigm says that using technology resources facilitates such learning.

The Developmental Perspective. Generally, student-centered-learning and resource-based learning seem to match the descriptions of the Developmental Perspective coined by Pratt and Associates (1998). This perspective says that a person's prior knowledge must be activated, and so learning is based on past and present experience. Learners are actively engaged in their learning and making links between information is more important than the elements. Knowing differently is more important than knowing more. In other words, the process of learning is important. Most importantly, the developmental teacher is a co-inquirer and a guide-on-the-side, rather than the information bank or the lecturer. Like the Nurturing Perspective, trust and respect between the teachers is a key element of the Development Perspective (Pratt & Associates, 1998, p.129).

Ward-Smith College faculty seems to believe that students must learn in ways that are necessary for them to be able to transfer skills into the workplace. They seem to emphasize more of a process of learning, rather than the content itself. Although content is important, faculty believe that students need to be able to research for information, draw conclusions, solve problems, and do this with others as well as by themselves. They describe themselves as facilitators and co-learners.

Three aspects of faculty beliefs seem to bring out this developmental perspective. First, their beliefs about the learners lead them to view the ILCs as a useful place for student-centered learning. Second, their beliefs about the external environment makes faculty center their teaching around the learner's ability to transfer knowledge. Third, their beliefs about the ILCs as a place for learning create an epistemic orientation that is

developmental. The faculty seem dedicated to such learning and devoted as teachers to their students in the ILCs. However, while all these views create for most teachers a view of the ILCs as a place of student-centered learning, there are a few others who view it as a place for traditional forms of learning.

Beliefs about the learners. Beliefs faculty hold about teaching and learning are influenced for the most part by their beliefs about learners. At this college, there were indications that the faculty uses the ILCs because they believe the students learn better with technology and with the pedagogy of student-centered learning.

While the ILCs help students thrive in a technology-integrated atmosphere, the faculty also believe that not all the students are disciplined enough to engage in self-directed study. While faculty believe the students are tech savvy, they also believe some students are recalcitrant and do not wish to learn. These students fit the category of "resisters" that Meighan and Meighan (1990) say requires the teacher to exercise more power over them. Instead, the faculty sees that using technology naturally motivates even these types of students. Therefore, the power relationship is one of partnership for learning, as they act as a guide on the side. They mention that they have to keep a close eye on students because they tend to wander off into the Internet to view pages not pertinent to their schoolwork. Other faculty talked about how students sometimes copy pages off the Internet without thinking that they are violating copyrights. Although these are common problems in all schools, the question is how much policing is required? The data reveal that both the ILC staff and the faculty have discipline issues with the students.

When faculty spoke about the students, they seemed to infer that students do better in the ILCs because they are tech savvy, have short attention spans in traditional

classrooms, and have a disdain for textbooks. Most faculty members tended to think that students are part of a technology generation that become more motivated when learning with technology. A poignant example was Robin's example of the student who didn't do well in the traditional classroom, but could read charts and graphs on the computer and complete a complicated project in the ILC. All teachers noticed how students were way ahead of the teacher on the Internet and that faculty had trouble keeping up with the students. These factors all match literature that increasingly call for faculty to use technology in the classroom, noting that students have grown up with digital media and no longer consider them as technology, but as part of their lives (American Association of State Colleges and Universities, 2004).

Several faculty members distinguished the younger Further Education students from Higher Education students. Further Education students seemed to be described as requiring more teaching; Higher Education students were described as requiring more facilitating and independent work. Although in general, the ILCs are used for Further Education students, quite a number of Higher Education students use it in the Humanities Division and in other ILCs. Penetration of Higher Education faculty into the ILCs, however, is minimal when compared to the Further Education faculty, according to the Director of the ILCs.

The importance of preparing for the work world. Among the beliefs about learning in the ILCs, a salient recurrence behind faculty beliefs about teaching in the ILCs was the notion of transfer. While faculty believes in teaching in the developmental perspective, their concern is also about the students' ability in the work place. Stephen, a faculty member who teaches in the Humanities talked about it in terms of long term memory and

retention. He said "they will actually know how to research," and spoke about the fact

that it will "transfer into the work world because students will have developed skills of

cognitive thinking, analytical skills..."

Violet and Hank explained how they want students to learn to research

information, think critically and solve problems, and then transfer these skills in the

workplace. While most of Violet's, Hank's and Stephen's commitments are in the

Development Perspective of allowing the student to think and learn for themselves, they

all also concern themselves with students transferring what they learn into real-work

situations. Violet wants the students to go out and practice in real-life settings and then

reflect upon that practice. Stephen and Hank want students to have thinking skills in the

work world. All three teachers also described themselves as guides on the sides, and as

facilitators of learning.

While all of these faculty were more concerned about students' survival in the

marketplace, Janet, a faculty member in Theatre Arts, reiterated this theme, but with

more of a social reform perspective. Janet explained that her mission was to create a

better society in which her students have the ability to think critically against government

policy. She also emphasized the importance of promoting dignity in the learner, and

helping the student gain confidence.

Faculty's commitment to students' learning in the ILCs. The faculty at Ward-Smith

seems dedicated, not only in the amount of extra time they are willing to put in without

pay, but in the way they talk about teaching and learning. Most of the faculty seemed to

associate the students' experience as part of the learning process. Student's ability to

learn from experience and reflect upon that experience seems important to many teachers.

In the ILCs, allowing the student to own their learning by researching for information, thinking critically and solving problems for projects is the classic form of student-centered learning. Faculty said that without the ILCs this type of learning would be difficult.

Blend of perspectives. However, as Pratt and Associates suggests, teachers tend to hold a blend of perspectives, and do not fall neatly into one perspective. For example, Madonna, an art theory instructor seems to hold a strong developmental perspective, but also "operates from a Nurturing Perspective in the background" (Ibid, p. 129) of trying to motivate the students. When describing her students, Robin also seems to hold a Nurturing Perspective of placing the importance on the relationship between the teacher and the students. As mentioned previously, most faculty members also emphasized transfer and the importance of being a guide-on-the-side as a facilitator of learning. Such beliefs fall under the Apprenticeship Perspective.

Transmission Perspective. One teacher, Michael, in the technology department fit more into the Transmission Perspective than the developmental perspective because his teaching involved content-centered approach in which students acquire information for testing. Additionally, from observation sessions, I noted that some faculty do teach with PowerPoints in a lecturing fashion and then have students do fill-in-the-blanks exercises. Therefore, not all faculty members hold the developmental perspective, but some hold a mixture of perspectives as well as the Transmission Perspective.

Why so much variety?

Whatever the perspective, within the ILCs and the use of technology within, all of

these different types of learning paradigms are carried out. The reason behind this may

be the following:

1) Not all teachers are ready to change. Dwyer et al. (1992, p. 2) affirms that faculty

beliefs are difficult to change even in the context of a technology-based environment.

Cultural norms may continue to support didactic instruction, faculty may still hold beliefs

about themselves as the center of pedagogy, or they may be resistant to change due to the

practical need to teach for the test. Moreover, like Pratt & Associates' (199*) findings,

Klien (1996) concluded that teachers can hold both constructivist and transmissionist

perspectives when using technology.

2) *There might be no relationship between technology use and pedagogical change.*

Studies about teachers' epistemic beliefs in relation to technology reveal mixed results.

Hannafin and Freeman (1995) concluded that there is no relationship between teachers'

views of knowledge acquisition and their computer use in the classroom. However, the

more constructivist in orientation the teacher, the more receptive they were to software

that enabled constructivist oriented learning. Olech (1997) and Becker (1999) found that

teachers with epistemic beliefs that fell into the behaviorist orientation tended to use

computers and the Internet less. Hannafin and Savenye (1993) in a major literature

review about teacher beliefs and technology use said that several issues pertaining to

software and hardware issues deter faculty from using the computer: Faculty gets

frustrated with technology, feels it requires more time and effort, and fears losing control

over students. Hannafin and Savenye studied role change and hypothesized that teachers

may be receptive to technology but the change in pedagogy may deter them from using it.

3) *Teachers may be adapting to the needs of the students.* Rogers (1995) says that people

do not always use innovations the way they were intended. He says people should be

free to re-invent the way technology can be used. In the case of faculty who use the

transmission perspective, however, they have adopted the tool to their way of teaching,

and have not engaged in student-centered learning. Resource based learning doesn't have

a prescribed set of pedagogy, although student centered learning seems to be the ideal

model applied as of late. However, faculty who engage in more didactic or expository

forms of teaching may be employing resourced based teaching rather than promoting

resource based learning.

According to the Director of Resources, teachers use various methods because not

all students are ready for student-centered learning. This matches Gerald Grow's (1994)

Stages of Self-Directed Learning Model. Grow says that there are four stages of self-

direction as displayed in Table 4 on page 134. Stage one students are dependent and

need the direction of a teacher who is transmission oriented. Stage two students are

interested but need the teacher as motivator. Stage three students are involved and just

need the teacher to be a facilitator. Stage four students are self-directed and just need the

teacher to be a delegator or consultant. At Ward-Smith, teachers are mostly facilitators,

but there are other students, such as that mentioned by Robin and Violet who seem to be

stage one type of students. They mentioned students who need direction and authority in

order to be motivated.

The need for a teacher is evident in other studies. In a study about faculty beliefs

in student-centered environments Pederson and Liu (2003) found that students tended to

flounder over their work when left to themselves. The faculty said that questioning

students in order to redirect them and providing scaffolds in educational software were

important to the success of student-centered learning. Bush and Saye (2000) evaluated

student-centered learning as a case study and found that the way teachers manage the

learning is important in the outcome of learning.

Table 4
Staged Self-Directed Learning

	Student	Teacher	Examples
Stage 1	Dependent	Authority, Coach	Coaching with immediate feedback. Drill. Informational lecture. Overcoming deficiencies and resistence.
Stage 2	Interested	Motivator, guide	Inspiring lecture plus guided discussion. Goal-setting and learning strategies.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal. Seminar. Group projects.
Stage 4	Self-directed	Consultant, delegator	Internship, dissertation, individual work or self-directed study-group.

From Grow's (1994) The Staged Self-Directed Learning Model, As retrieved from the Internet on May 30, 2006 at: http://www.longleaf.net/ggrow/SSDL/Model.html#Figure1

In conclusion, the faculty beliefs about teaching and learning in the ILCs indicate

that they are largely student-centered in their commitments. However, since students are

at differing levels of readiness for self-directed learning, the faculty tends to hold various

epistemic orientations and practice. Since the ILC environment accommodates all types

of epistemic beliefs, perspectives, and commitments, transformation to a solely

Development Perspective seems not only impractical, but unintended. Therefore, in the

ILCs, the definition of student-centered learning seems to be inclusive of many types of

learning and teaching styles. However, the dominant form of learning is inquiry and

project-based learning.

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It is clear however, that when the faculty members talk about the past, there have been instructors who resisted teaching within the ILCs. The boundary structures that Mezirow coined as a barrier to perspective transformation seem to exist within some faculty who are resistant to using the ILCs. The boundary structures that kept them from transformation were largely caused by socio-political reasons which created a "zone of blocked action." (Mezirow, 1991, p. 49). Similarly, Guskey (1986) found that in the teachers without commitment to an instructional innovation often changed their teaching practice in ineffective ways. In Part II, I will discuss the socio-political environment that the faculty members believe they work in, and make some conclusions about faculty in relation to the ILC model.

Part II

Faculty Work Life and the ILCs

The faculty members believe that the ILCs match their beliefs about the following: their students' need to transfer learning into the real world; students need to learn with technology; and students need to know how to use information and solve problems. However, faculty also believe that the ILCs undermine their work life. Therefore, faculty seem divided in their positive and negative feelings about the ILCs. These tensions between positive and negative aspects of teaching and working in the ILCs create feelings of ambivalence for faculty.

For example, many faculty members say that students do well in the ILCs and are much more attentive learning in the ILCs than in the traditional classroom. But, at the same time, they feel that they need to control the students better by monitoring their exploration of the Internet and the way some students present their work. The faculty

also expresses gratitude for the ILC staff who are very supportive of faculty work. However, at the same time, faculty resent that gradually, the ILC staff are given more authority to teach and supervise the students in their absence. Therefore faculty responses vary between those who want to use the ILCs more and those who are reluctant to use it more. Furthermore, while faculty cannot deny that ILCs have an important place in student learning, they cannot embrace their work life that is hectic and overworked with little pay. They blame the nature of the ILCs and student-centered learning as taking their jobs away, taking away the quality of learning, and undermining their subject-matter expertise.

The results of the data reveal that the faculty has been de-authorized at Ward-Smith. At this College, there is an underlying pressure to increasingly use the ILCs in the curriculum. This pressure comes from the students who want to learn in this way, as well as the senior management who encourage this type of learning and time-table them. Faculty took on new roles on top of their teaching role, and was asked to team work with peers as well as support staff. While this was happening before the ILCs were initiated, according to the Director, such activity increased while the ILCs were implemented.

Teamwork was impossible with faculty who describe their coworkers as backbiting, mistrusting and cold. While they believe the ILCs have brought classrooms together and gave opportunities to integrate curriculum, most teachers say they are too busy to engage in teamwork or share responsibilities. They also believe that teaming classes together leads to job losses. One teacher goes as far as to suspect that there is a hidden agenda in the management goals with the ILC. She and several others suspect that the ILCs by nature are designed to eliminate faculty jobs, give students more

independent learning time, and create more teaching opportunities for the ILC staff.

Additionally, on the more drastic side of the change, faculty got layoffs from funding

cuts, and faculty who left work for one reason or another were never replaced.

Possible Reasons for the Nature of Faculty Work Life at Ward-Smith

Literature talks about how technology integration creates a new working culture

in the workplace (Kerr, 1996; McLuhan, in Griffin & Park, 2005). At Ward-Smith, the

transformation was gradual, but with drastic implications for faculty work life. Faculty

has been marginalized by the changes brought about by the ILCs. However, faculty

seems to hold a general sense of mission, within the ILCs, of teaching with technology

and facilitating student-centered learning. So, while these feelings of resistance surface,

a strong sense of commitment to the ILCs seem to be also present. Why is this

contradiction present?

Below, I will discuss the possible reasons why faculty members hold these

perceptions about their work life.

1) The culture of change for technology integration. Both the management and faculty

interviews suggest that technology integration at Ward-Smith was not approached piece-

meal and was well integrated in terms of pedagogical transformation. The model

integrates student services with learning and the management had a definite strategy to

the change management through a matrix model. The change was approached in an

incremental fashion, with a graduated 7-year plan in which each ILC was gradually built

and introduced to staff. Literature says such incremental approach is more effective in

bringing about institutional change. So the plan to institute the ILCs was carefully

crafted. However, an institution-wide plan for a culture of change does not seem to coexist with this plan.

The management was aware that they wanted to create a culture of change that welcomed the use of technology with pedagogical change. According to the Director of Technology, Phyllis, her prime objective is to establish a culture of change. She said most of her work is evangelizing and changing the culture so that the faculty members get to the stage where they are actually using technology in their teaching:

> We need to establish the cultural change, that the practice of staff in utilizing the ILC. But yes, but we have a number of things like the workplace support that we need to develop....The most difficult part of my work is getting to the stage that we are actually doing that, and rather than being an evangelist, actually taking ownership of it.

Although the integration was approached systematically and with purposed plans to change the culture, there were several things working against the culture change process.

No input initially. In this college, faculty members do not seem to have initial ownership of the change process. The ILCs were initiated without faculty input. The faculty believes that when the ILCs were initiated, they had no part in the decision. Although by holding orientation meetings, the management tried to educate the faculty about what's happening, the faculty was either too busy or unaware of the events. The few faculty members that mentioned their degree of involvement talked about it in terms of what was asked of them after the fact. In other words, being asked what they want in the ILCs assumes that the ILCs were already initiated. Fears about the ILCs as a means to cut costs and provide "learning on the cheap" show that faculty felt insecure about the changes taking place. Organizational experts such as Cameron (1984) say that

organizations are glued together by how they interpret history and current events. The

initial reactions toward the ILCs show that there is a socio-historic element within British

culture toward learning centers.

Socio-historic. Literature about learning centers in England says that when employees

find out about a new learning center coming to their place of work, they usually think of

it as a way to cut cost and provide training without expensive overhead (Scott, 1997, p.

10). With resource based learning, there is also common knowledge that the teacher is no

longer the sole content expert, but a guide and manager of learning (Hamilton &

Zimmerman, 2002; Olcott & Schmidt, 2000 p. 263). Moreover, a government white

paper called *Learning to Succeed* was published in 1999 which spoke about educational

institutions needing to restructure and use IT technology to enhance lifelong learning.

The Library Association responded by giving libraries more prominence in carrying out

such learning by saying:

> Achieving the aims of the White Paper will require the widespread adoption of
> strategies for resource-based and ICT-mediated learning. It will require the
> provision of learning opportunities in a much wider range of settings than in the
> past. These developments will be necessary to achieve the required enhancements
> of accessibility, flexibility, and learner independence; and the required
> enlargement and diversification of the range of learning opportunities...We
> believe that library and information services are part of the solution to reaching
> the goals set out in *Learning to Succeed* and other Government papers. (Library
> Association, 1999).

So, these external frames of reference created more insecure feelings and led

teachers to believe that the ILCs were used as a means to cut cost. This matches what

Bates (2001) said about fears that faculty has towards the unknown and that these fears

are a chief barrier to technology use. Faculty feared job loss, or that more time will be

needed for teaching. Some faculty, like Robin, feared their lack of knowledge about

computers, which researchers (Albright, 1996; Armstrong, 1996) have said creates a fear of failure in front of students.

However, as the "early adoptor" faculty were chosen to be time-tabled within the ILCs to show others how the ILCs could be used, the initial tensions subsided and faculty began to use the ILCs to the point where there was no more room for more classes to come in. Literature says that faculty learns from their peers and that the social construction of technology integration is important when helping faculty adopt technology. That is, faculty learns from the "early adopters" and gradually other faculty begins to rally around the technology (Rogers, 1995). According to this theory, a change agent effect occurs when people are planted by upper management to influence others' innovation decisions. These people are generally experts about a particular innovation. In the case of Ward-Smith, from the descriptions given by Jane, the librarian and Chuck, a faculty member, the "experts" were early adopters or faculty who were open to technology and change. Others agree with Rogers (Baldwin, 1998; McKenzie, 1999; Padgett & Conceicao-Runlee, 2000; Quinlan & Akerlind, 2000; Sandholtz, 2001; Windschitl & Sahl, 2002) saying that peer collaboration and/or faculty mentoring are effective ways to help a critical mass of faculty adopt technology.

However, as funding cuts created pressures in the way the ILCs were run, the faculty then began to once again question the role of the ILCs in their lives. They began to see that some of their initial fears were coming true. The problem of faculty dissatisfaction could be viewed as a result of "poor marketing" as Chuck, a faculty member, explained. But, it's not really clear whether Chuck is really talking about marketing or whether he's talking about the way funding cuts were managed. When two

courses were combined into larger classes, one of the two faculty members was let go. Instead, the two should have been kept, he said. That is a matter of method, not marketing.

It is true that culture can be managed during financial crisis so that faculty may not be distressed. Neumann (1995) for example, compared two institutions during a time of fiscal pressures. She found that institutional leaders can make a difference in the social construction of beliefs during a time of financial crisis. Deception and mistrust of executive administrators could lead to a climate of instability and back-biting. Upfront and open approaches to financial problems as well as faculty participation in decision making can mitigate stress during tough times.

So, at Ward-Smith, although there is an effort to change faculty thinking to help them use the ILCs, a systematic sense-making effort seems to be largely missing. Leslie and Fretwell (1996) spoke of resilient colleges as having a collective sense of mission, understanding of the educational philosophy and commitment to add value to students and society. At Ward-Smith, the teachers are committed to the students, but they are not sure whether the management is committed to them. While a culture of learning-centeredness is present, a culture of commitment to the institution seems viscerally buried in funding cuts.

2) *Faculty adoption needs.* As faculty work lives are changing when technology is implemented in an institution, the work environment of faculty seems central when studying how technology is changing an organization. All of the elements required for faculty adoption of technology are present in the ILC model, except one. The faculty receives ongoing, just-in-time training and ongoing support as they use the ILCs because

technology and curriculum specialists are on-site within the ILCs. They have the ability

to learn from others and collaborate. Moreover, strand five of the College's Resource

Based Learning strategy is "to develop staff to enable them to maximize their use of the

new learning environments," according to the Queens Report.[3] The College gives out

training certificates of professional development as well.

However, one important item mentioned repeatedly in literature is rewards

(Albright, 1996; Hutchinson, 2001; Moore, 2001; Zhao & Frank, 2003). There are very

little rewards or incentives to use the ILCs. The only reward that the faculty mentions is

that the students are motivated and also the faculty receives lots of support. Aside from

these incentives, faculty could lose jobs, have shorter teaching time, work over time, and

lose their status as subject-matter experts. Such disincentives outweigh the incentives.

So the absence of rewards creates the negative effect on culture change.

3) *Inherent traits within the ILC model.* All this being said, at Ward-Smith, the faculty

perceptions of the ILCs are not merely based on cultural change or marketing. Rogers

(1995) describes four major attributes of innovation as compatibility (of people or work)

with the innovation, complexity of the adoption to the innovation, the trial-ability or the

ease of experimentation with the new innovation, and observability. While some barriers

to technology use included technology glitches, and faculty apprehensiveness with

learning new technology, the technology adoption in the ILCs seems to have less to do

with theories of technology adoption, and more to do with work-life change. The data

results reveal that faculty has issues with the ILC model. The faculty perceives the ILCs

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[3] The Queens Report is an internal document created by the ILC management to apply for a national competition for innovative educational models.

in terms of its socio-historical variables and the devaluing of their work that is inherent in the nature of the ILC model itself.

Summary

The ILCs seem to present a model of technology integration that inherently affects faculty in an adverse way. No amount of marketing or cultural management could convince faculty that nothing is wrong when other faculty members are laid off. One faculty, for example, spoke pitifully of a colleague who was let go after 23 years of teaching. The problem stems from the fact that as Ward-Smith changed into a learning college, the focus of power shifted from core academic values to managerial values. In the next chapter, I will make some conclusions about this change model.

CHAPTER 7

Conclusion and Implications

This study concludes that the ILCs represent a vibrant, innovative model for student-centered learning. However, the model also represents a response to external pressures in several ways: 1) The ILCs represent a common learning model of using learning centers in Great Britain. 2) An external policy guides the teaching hours. 3) It responded to external pressures with a business model that can be best described as post-Fordist. In responding to external pressures, the ILCs meet certain needs at the expense of others. In the concluding pages, I will discuss the limitations with the ILC model and conclude with ideas for a new, modified ILC model.

The ILCs as an Institutional Model

Like many colleges, the ILCs are a product of both internal and external influences. The concept of the ILCs is a deluxe model of learning centres which, in Great Britain, was a growing phenomenon in library literature in the 1990s (Oyston, 2003). The ILCs also represent an internal response to external policies.

A deluxe Learning Centre model. Since the incorporation of colleges in 1993, further education has been engaged in change. Most have changed from its traditional forms of educational delivery to "resource-based learning centres, a wider range of staff working with students, less group-based teaching and more individually paced work, and so on." (Lumby, 2001, p.1) Likewise, Ward Smith's ILCs are a byproduct of learning centers common in the United Kingdom. Ward-Smith's management studied the literature about learning centers, visited other colleges, and created their own deluxe model. In terms of a model of technology integration, the ILCs at Ward-Smith College have all the elements

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of technology use and restructuring common to the learning centre concept. Generally, the idea behind a learning centre is to combine IT resources with library resources, and then add curriculum (Oyston, 2003). Like other colleges, Ward-Smith College fused different existing resources: library materials, learning resource center materials, and IT resources with all other student support services and placed them in one central place for each division. What makes the ILCs at Ward-Smith a deluxe model is that the managers took the learning centre concept and spread it across the college according to each college divisions. At the same time, they centralized control through the matrix system of management. Having both a decentralized and a centralized system of management is highly recommended during times of change (Cameron, 1984).

Literature verifies the normalcy of faculty change at Ward-Smith. Learning centres in Great Britain usually have role shifting that results in faculty ambiguity (Norry, 2003). More importantly, the increase in work volume and overtime is a common phenomenon in other institutions which use the learning centre model. To the management, faculty layoffs are a mere triage (Leslie and Fretwell, 1996), a sacrifice of full time faculty staff who traditionally consumes most of the financial cost of running an institution (Anderson, 2002). In this manner, the ILCs survived funding cuts and served as a means to deliver classes when there might be none otherwise.

Response to external policy: Guided Learning Hours. In the case of Ward-Smith, the mitigation of teacher-student contact hours was planned around the concept of Guided Learning Hours. The latter, an external policy, gave the ILCs the right to count student seat hours in the ILCs as class hours, even though the teacher is not present. So when faculty suspects a "hidden agenda" their suspicion does have basis. The director of the

ILCs explains how the goal is to move away from counting Guided Learning Hours as teaching hours:

> Because what we are talking about, generally, is moving away from the...we have this thing called Guided Learning Hours. Every program gets funded in terms by the number of Guided Learning Hours. It's called Guided Learning Hours because that's what it is supposed to be. Unfortunately um...in the tradition we come from, there's a huge correlation between Guided Learning Hours and teaching hours. So, what we've got to do is cut down the teaching hours within the same Guided Learning Hours.

Moreover, the Queens Report (p. 4)[1] states:

> "The increased use of the ILCs and the support of the staff within them have enabled the College to reduce the staffing budget in the Divisions by 5 percent this year and this figure is projected to grow. The learning transformation program aims to re-design students' learning programs to allow the ILCs to support a greater proportion of the guided learning hours for students, thereby increasing the variety of learning opportunities available and ensuring that each activity is supported by an appropriate member of staff."

However, because of such a policy, the unintended outcome is that when there's funding cuts, managers tend to think about cutting staff and placing more students in the ILCs as independent learners without teachers. The director explained how recent budget cuts created a situation in which a manager decided to let 16 groups of students to have seat time in the ILCs without a teacher:

> Yes, resource based learning is in the service industries. We have had, this term, a situation where sixteen groups in that division have been using the ILC without a tutor. In the past we have said, "Oh, that is, is dumping." All you're doing is saying, "We don't have a teacher for this group, we're putting them in there." And we would have said, "You can't do that because that is dumping." But what we've said is, "Okay, let's have a look at how this will work. We don't agree with it because there are fundamental things that need to be in place before you do that."

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[1] The Queens Report is an internal document that describes the ILCs. The purpose of the document is to enter the Queen's Competition for innovative colleges.

Having demonstrated that there is an inherent goal within the ILCs to increase the

Guided Learning Hours without having the faculty necessarily present, I will now explore

the business nature of the ILC model.

At Ward-Smith, the idea of being student-centered seems to resonate among

administrators and management. Like a business, the ILCs seem to be driven by the need

to serve the client or the student. This is a response to the federal government's

incorporation of FE colleges in 1993 (Lumby, 2001). The idea behind this national

policy was to make the colleges compete with each other in a free-market atmosphere. It

is no surprise then that a many of the ILCs' theoretical underpinnings seem to point to a

post-Fordist model of educational administration.

The Post-Fordist Model

While Fordism and Taylorism were based on rigid hierarchical structures, post-

Fordism creates flexibility and adaptability (Bates, 2000). Post-Fordism is also marked

by an appearance of flattening of hierarchical structures. For example, in the workplace,

as workers have access to information, they are able to make decisions that only

managers used to make (Brown & Duguid, 2000). However, workers still remain

workers, and not managers, and their pay rate seldom rises because of these changes in

roles. Likewise, rather than an emphasis on bureaucracy, the ILCs offer flexibility; rather

than being teacher-centered, the ILCs are client or student-centered; rather than the

traditional model of teaching the entire class at one time, the ILCs offer a more

individualized instruction. Students are the center, rather than the teacher; and teachers

share responsibility with support staff. Rigid hierarchical structures seem to have

dissolved.
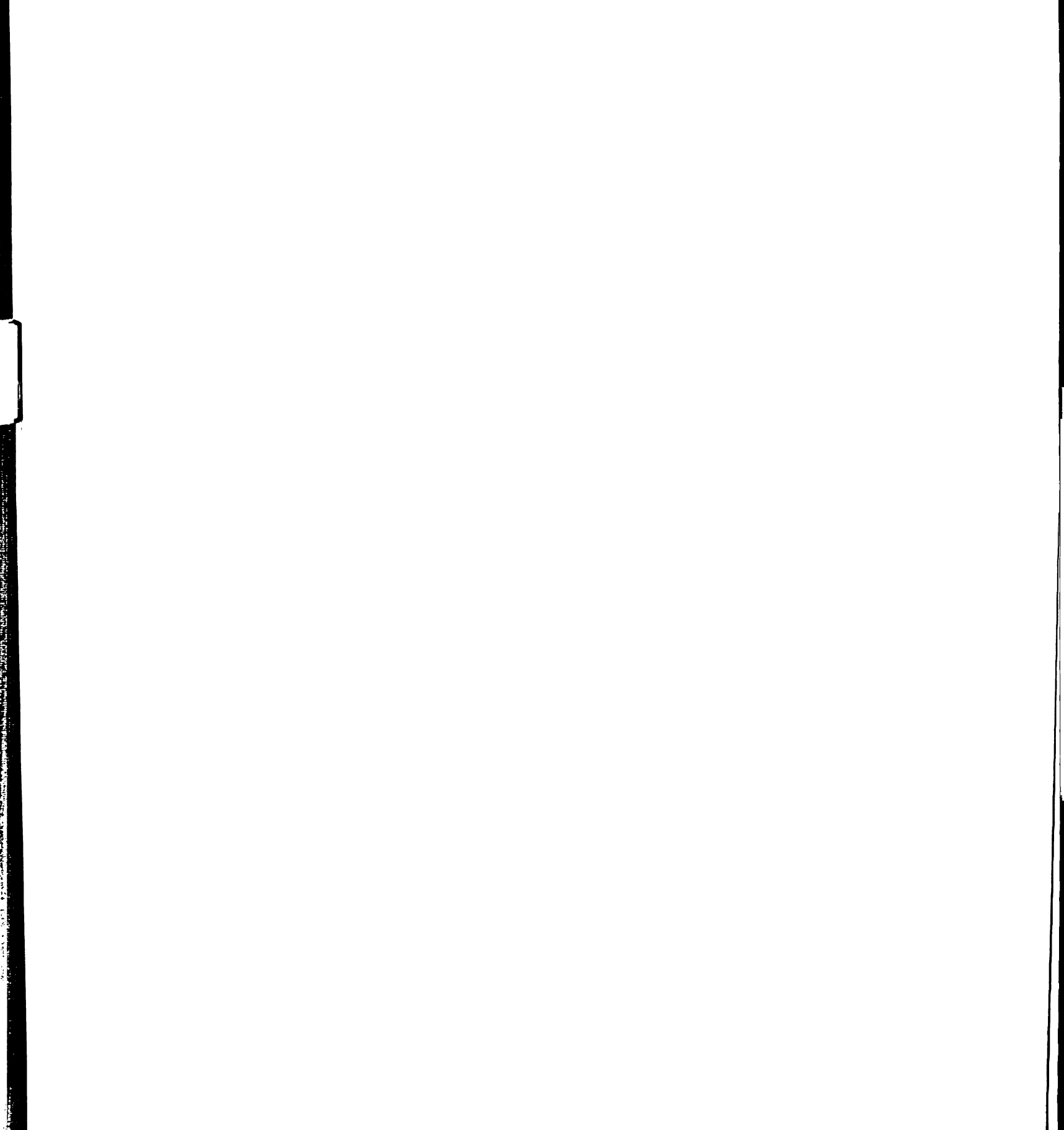
Bates (2000) devotes an entire chapter of his book to the Post-Fordist model of educational delivery. The model of technology integration at this college seems to fit the Post-Fordist model that Bates and others have been searching for. These elements are listed and explained in the following paragraphs (Bates, 2000, p. 387).

Heavy dependence on information technologies, which is a central trait of post-Fordism, is common in all of the ILCs as information communication technologies are at the center of student-centered learning. Another trait is *customized*, individualized learning. With the learning advisors, who worked in the ILCs until budget cuts in 2005, the ILCs provided customized products and services tailored and adapted to the needs of individual clients or students. Even though the learning advisors no longer work in the ILCs (due to recent budget cuts), the model, in theory, has a built in mechanism to customize software and learning to tailor to the students' needs. One example of this is an animated simulation about health and safety for special education students who had trouble learning these concepts at the same pace as other students.

Another element of post-Fordism is that *workers are directly networked to clients and rapid and immediate feedback is used to modify products and services*. The virtual learning environment (VLE) that Ward-Smith uses is a learning management system that helps teachers and counselors track learning progress and communicate and provide feedback to students. Teachers, serving as personal tutors, also use email and weekly meetings to monitor student progress in all areas of student concerns.

The workplace in the *post-Fordist model is supposed to be characterized by decentralized, empowered, creative workers, often working in teams*. At Ward-Smith, observation and interviews indicate that there still exist power differentials between

executive management, faculty and the staff of the ILCs. One librarian, Sophia, half-jokingly referred to the faculty as her "masters." And Hank spoke about the executive management with "wall to wall carpeting." At the same time, there's blurring of roles, multiple roles and teachers who feel they are losing their status, and rights to make decisions. So, there is a flattening of hierarchy within an existing hierarchy. Unfortunately, at Ward-Smith, this flattening of hierarchy resulted in faculty losing jobs, and flattened their status as subject-matter experts.

Teamwork is an element of post-Fordism. Teamwork is part of the instituted model of the ILCs, at least as an espoused theory (Argyris & Schon, 1974). However, as a theory-in-use, the team concept seems to exist largely among the curriculum managers who work with his staff of faculty, but seldom between faculty and faculty, nor between faculty and ILC staff. Wenger (1998, p. 73) says that communities of practice contain three dimensions of mutual engagement, joint enterprise, and shared repertoire. It is logical that since faculty members compete for jobs and as a couple of faculty members stated, "we have to watch our backs," they do not share a repertoire or engage in joint enterprise. Additionally, since the faculty members feel that the ILC staff takes their jobs away, there are no incentives to further promote the work of the ILC staff by joining forces with them.

Post-Fordist models tend to *have a steering core of workers* who are generally well paid and highly valued; non-core workers tend to be part-time, outsourced and lack secure working conditions. Traditionally, Bates (2000) says the steering core of the educational institution is the faculty. At Ward-Smith, while there are differences between full time and part-time staff, increasingly the managers seem to have more power over

the faculty, making management the steering core. What's happening at Ward-Smith College is what Clark (1998) describes as entrepreneurial universities' strengthening of the administrative steering core. However Clark warns that the blending of the tight and loosely coupled system in institutions works best when trusted academics (or faculty) gained responsibility for the whole institution and were involved in the change process. "Managerial and faculty values (have to) become intertwined and then expressed in daily operating procedures," (p. 137). It is beyond the subject of this study to ascertain whether this is the case at Ward-Smith, but there were indications that a lot of faculty, who are also managers, report to the executive within the matrix system. It is clear however, that not all faculty values have been expressed in the ILC model, and that faculty members did not feel they were part of the change process that created the ILCs.

Strong leadership is also a post-Fordist notion, especially one that is visionary and plays an integrating role. At Ward-Smith, the Director of the ILCs possesses strong leadership power and coordinates all ILC activity across the matrix structure of management. He also has the backing of executive management.

Post-Fordism refers often to a small-scale and specialist organization *dependent on partnerships and alliances with other organizations* with related and complementary competencies. Ward-Smith is a small college serving predominantly the needs of FE students, but it has partnered with a larger university.

Departments within the college are able to partner up with other departments for special needs, and mutual dependence (although this doesn't happen very often). They may share resources such as learning objects, or share student projects, but funding mechanisms make this type of sharing difficult.

It is difficult to discern with certainty whether Ward-Smith has enough of the last

two post-Fordist qualities that Bates (2000) lists. For example, post-Fordist organizations

are characterized by *rapid development and change*. At Ward-Smith, the matrix system

of management allows for fast change, at least in terms of decision making. The matrix

model also allows rapid learning of internal affairs. However, the change model on

which the ILCs were created was incremental and based on a seven year plan.

Global operations that characterize post-Fordist organizations are only apparent

in Ward-Smith to the extent that students access information all over the world on the

Internet. Also, there are some foreign students from Poland and Asia who study at Ward-

Smith. Many visitors have become interested in the ILC model both internationally, and

from across the continent.

The presence of these elements of post-Fordism makes the ILCs an innovative

model of technology and learning integration. The ILC represents a deluxe model of

learning centers because Ward-Smith created an ultimate student-centered experience of

bringing all student services into one place. By using the ILC model, Ward-Smith

resolved one major hurdle in student-centered learning: the need for extensive learning

resources in a non-restrictive, non-linear environment (Glasgow, 1996). Moreover, it

created a system of management that is both centralized and decentralized along a matrix

organizational principle. Both the management of the organization and the way students

learn is flexible and adaptable to change. Through many fiscal constraints, the ILCs have

grown and thrived and through the ILCs the management was able to justify losses in

other spheres of the college, mainly the loss of faculty jobs. Only recently, have the ILCs

lost some of its own staff to budget cuts. The ILCs at Ward-Smith fit the needs of the

21st century in producing flexible learning environments that emphasize the learning

needs suited to the marketplace.

Limitations of the ILCs as a Post-Fordist Educational Model

However, while such a model offers student-centeredness and flexibility, Ward-

Smith failed to adapt well to all the concepts behind the ILCs. Political infighting

prevented the ideal teamwork environment that could have been possible for teachers to

job-share and become less overburdened with extra work. The steering core, which

traditionally should be faculty, has shifted to management. Thus we follow such a

model, which seems to mirror the world of business, the implications for such change

seem to mean the abasement of the teaching profession. Therein lays the dilemma of this

new model. As an answer to a model for restructuring colleges into a learning college,

the ILC model holds promise if it takes care in how it approaches teaching within their

model of student-centered learning.

The role of the teacher. The major problem in the ILCs is that the teachers and

the content are de-legitimized. In the ILCs, there is a need to reconcile the role of the

teacher within the learning process and the learning environment. Should the replacement

of teachers by the ILC staff deliver as effective a learning environment as when the

teachers are present? According to the results of this study, the teachers obviously feel

that their students need them for the entire class duration in the ILCs.

Researchers have mixed ideas about the role of the teacher in technology-rich

environments. In the online course model, common in the United States and elsewhere,

the instructor is present only virtually, and in some cases seldom present at all. In

another model, instructors are in a blended learning model combining online with face-

to-face instruction, as they find motivations of some students are lax in fully distanced learning courses. In all these cases, the role of the teacher is as a "guide-on-the-side," and a facilitator. Referring to such cases, some researchers say that when technology is used as information banks, as is the case in the ILCs, the teacher no longer is the primary subject-matter expert (Gillespie, 1998; Koehler, 1998; Whitesel, 1998). They also play a less hierarchical role in relation to the student as they are co-learners with the students.

However, according to other literature, the role of the teacher in student-centered environments is more than sideline-sitting. In the ILCs, the role of teachers is also curriculum creators, lesson planners and engagers of students in inquiry-based learning. The latter involves asking probing questions and guiding discussion with resources on hand. The teacher engineers the cognitive and social environment so that students can learn together effectively (Witfelt, 2000; Richards, 1998). The teacher is also responsible for updating information and technology to make learning current and authentic. According to Witfelt (2000), the teachers need to possess important competencies such as supervising, supporting students, advising as subject-matter expert, encouraging, arbitrating group discussions, evaluating and providing feedback, and motivating students to keep on track.

The Library Association states that librarians and staff are receiving higher level training in IT and resource management. Furthermore, there is also a movement to train library staff to become effective "supporters of learning and learning activities" (Library Association, 1999). While the library staff can be effective as facilitators of policing learning, they cannot be as effective at guiding content knowledge.

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The Development Perspective and student-centered learning require the teacher's expert knowledge in order to link students back to content, as illustrated in Figure 4.

Context

Learners

X

Content

Ideals
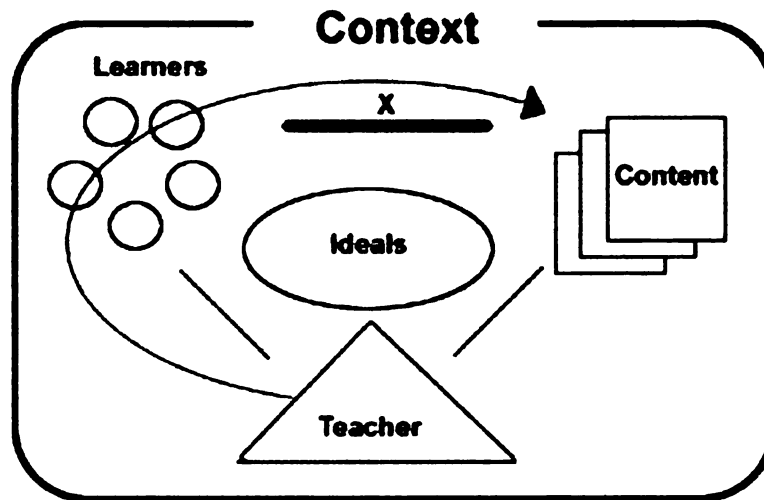
Teacher

Figure 4. The Developmental Perspective (From Pratt & Associates, 1998, p. 46)

In the observation data, the teachers in the ILCs seem to provide more one-on-one tutoring than in a regular classroom. What is salient throughout the data is the nature of the students in the ILCs. They seem to need more supervision, more content help, than the older, higher education students. Many further education students seemed to have questions about the content in their project assignment. So, teacher presence is necessary at least for a big chunk of time in order for students to maximize their student-centered learning in the ILCs. When the faculty member is not present for a class, it is questionable whether the ILC staff is able to provide the information expertise. The quality of learning, then, becomes the issue when someone who is not familiar with the content is directing the learning. The absence of a teacher means there is no one to link the learners back to content, as illustrated in Figure 5.
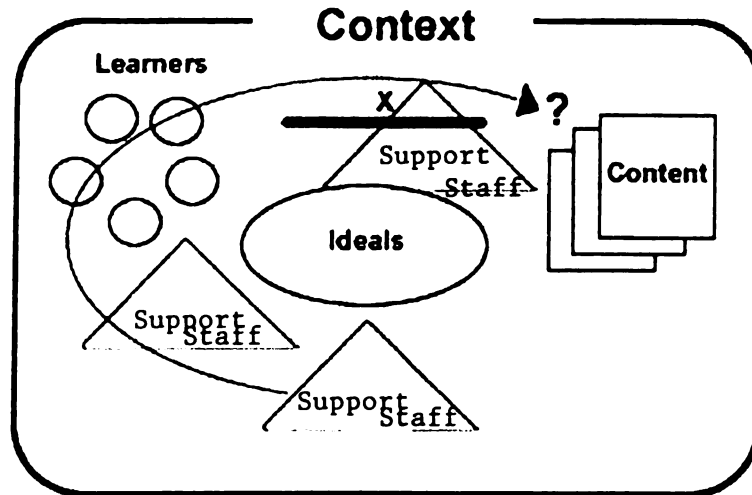
Figure 5. The ILC Developmental Perspective.
(Adopted from Pratt & Associates, 1998, p. 46)

Moreover, literature stresses the importance of the teacher-student relationship in

fostering learning. As Berman et al., (2003) states "effective teaching requires more than

just subject-matter expertise; pedagogical knowledge—how to effectively communicate

curricular content and engage all students as active learners—is as important and the

ability to create inclusive environments in which everyone feels validated as a person."

(281). In creating and engendering lifelong learning skills, the teachers must help nurture

and guide the "habits of the mind" (Gardner, 1999). It takes experience and

understanding of the content in order to guide and direct students, and to encourage

divergent thinking. Moreover, student-centered learning centers on a relationship of

empathy and knowing (the student). The teacher must encourage and enable the learners

to take increasing responsibility for their own learning. To do so, they need to negotiate

within the student's zone of proximal development (Vygotsky, 1978) and use the Stages

of Self-Directed Learning Model (Grow, 1994). Such tasks require an ongoing

relationship between the teacher and the student. Indeed, according to McKenzie (1998),

the long list of duties of a teacher as a guide-on-the-side seems daunting:

"... the teacher is circulating, redirecting, disciplining, questioning, assessing, guiding, directing, fascinating, validating, facilitating, moving, monitoring, challenging, motivating, watching, moderating, diagnosing, trouble-shooting, observing, encouraging, suggesting, watching, modeling and clarifying. The teacher is on the move, checking over shoulders, asking questions and teaching mini-lessons for individuals and groups who need a particular skill. Support is customized and individualized. The Guide on the Side sets clear expectations, provides explicit directions, and keeps the learning well structured and productive."

Such attention to students would be impossible without regular contact. All the above activities of the teacher-as-facilitator seem to be occurring in the ILCs (when the teacher is present). Educators will agree, citing Chickering and Gamson's (1991) work on principles of good teaching practice which states that teacher-student contact is the number one step in good instruction.

There is also evidence from studies about past technologies (not computers) that indicate that educational technology's success depends on the teacher's role and authority. Technologies that are used to uphold teaching and teacher's practice tend to endure; technologies that are proposed as teacher replacements tend to become obsolete (Kerr, 1996). ICTs fall somewhere in the middle. While the teacher is no longer the center of learning, as in the case of an overhead projector, the teacher is still needed as a facilitator of learning.

All these issues point to the importance of the teacher presence in the learning college. When the teacher is not present, there is no one to guide the student in the subject area. Even though technology may provide information, students may not be able to make sense of it, nor know when information is valid. More-over, the absence of a teacher as subject-matter-expert, means that there is an absence of a guide for meaning making of the abundance of information that is present on the Internet today.

Response to external policy and funding issues. External policy and funding issues have also played a critical role in the overall nature of the ILCs and specifically in the role that faculty plays in them. What the faculty said about government funding mechanisms is correct. When the colleges were incorporated in 1993, (Lumby, 2001) the college began to manage their own budgets for resource distribution, buildings, staff and every other aspect of the college, much like a private college. "They are effectively 'corporations' managed by Principals (often called chief executives) and governing bodies made up of employers and other people." (British Council website, 2006). This is part of a movement that started in Britain under Margaret Thatcher with the passage of the Education Reform Act of 1988. Noting that there is too much state intervention in economic matters, "which had the effect of discouraging the entrepreneurial spirit required to build an economy for the next century," (Berman et al., 2003, p. 264). As a result of this Act, colleges and universities also saw a reduction in funding. In essence, the Act was a move against the welfare state to a more competitive, free-market, global economy.

Colleges submit business plans to the central government, but have freedom to decide what courses to offer, and how they are offered. Therefore, the college managers are free to create roles and change definitions of their employee contracts. Many faculty members have dual roles of teaching and managing curriculum. Some are personal tutors as well, meaning that they keep track of student progress and counsel students on their academic matters. Dual and multiple roles did not arise as a result of the ILCs creation, but came about as a result of government restructuring of the way the Further Education colleges were funded. This is a phenomenon common across colleges in England. The

Director of the ILC explained how roles should be interchangeable between the ILC staff

so that students can go to anyone for help:

> So what we've said from the beginning was, in terms of developing the staff, the
> first thing they need to do is learn what the other people do, find out how they can
> support those other people and to what level they can support. Obviously, you
> can't do their job, but you can support them in doing their job, so that if they are
> not there, you can't tell the student go away, that person is not here today.

A big portion of the funding from the central government depends on the number

of students in courses, the graduation rate, numbers of students who pass exams and go

on to accepted destinations. So, to make courses cost-effective, the principle of doubling

up courses existed even before the ILCs were implemented. With the recent funding

cuts, this practice increased. Moreover, in some cases, students came into the ILCs

taking courses entirely with preplanned curriculum and lessons, but without the presence

and guidance of a teacher. Such learning is legitimated by the policy of Guided Learning

Hours, which states that students have to put in certain amount of hours per year, but

these hours can be under the supervision of a teacher, librarian or a resource tutor. So, as

the students learn in the ILCs under the supervision of the ILC staff, they meet the

number of seat hours needed for the Guided Learning Hours requirement. This

undoubtedly created tensions amongst the faculty toward the ILCs.

Literature verifies what Ward-Smith faculty said when they called further

education as the "Cinderella" of higher education (Lumby, 2001, p. ix). Faculty spoke of

the heydays when funding was plenty. They spoke disapprovingly of the government's

move to incorporate further education in 1993. A few faculty spoke of the way the

College is run like a business, and that the funding is based on numbers of students,

making it difficult to work freely without worrying about passing everyone. Because of

the lack of funding, the ILCs were largely funded in part by private businesses who donated technology in exchange for naming the ILC after their company. The recent atrium ILC has been thus named, as is the construction ILC, which were both funded by private businesses.

Much of the hostile in-fighting and climate that exists in the College has to do with funding and the ways the monies are dispersed. The Director explained how the ILCs have to compete with dollars that come in for each division based on per pupil funding. The division heads are reluctant to share their funds with the ILCs because there's no direct correlation to the number of students that are brought into the college as a result of the ILCs. Although recent figures in the rise of student retention may credit the ILCs, there is no direct evidence. So, the Director of the ILCs has to vie for monies. However, when shortage of funds meant that teaching had to be cut, the manger of the division let 16 classes into one of the ILCs without any teacher whatsoever. Such use of the ILCs made faculty believe that the ILCs are at fault for taking away their jobs, when in actuality the Director of the ILC had nothing to do with that decision.

Market-driven business model. For the past several decades and increasingly today, educational institutions all over the world have become market-driven (Newman, Couturier & Scurry, 2004). In a major literature review about faculty work life, Lee, Cheslock, Maldonado-Maldonado & Rhoads (2005) frame professors as knowledge workers in a new, global economy in which neoliberalism is the force influencing colleges. Their review notes that with the shift in the societal economic structure to neo-liberalism, there have been significant changes in educational commitments in

universities and community colleges. Moreover, these changes have "profound implications for professors" (p. 102).

Neo-liberalism arose from an approach to politics, economics, education and social reforms that says that today's problems are best addressed by the (laissez-faire) market, and that government regulation and the public sector should both be as minimal as possible (Tabb, 2001). That is, public entities should be left alone to generate their own revenue and become more accountable for productivity and efficiency. A salient aspect of this perspective is reduction of public sector subsidies, meaning funding from the government will be cut for public education institutions. Neoliberalism is largely an economic perspective that holds free markets as being "able to correct any distortion in society or the economy" (Lee et al., 2005, p.102) and that individual efforts are the main possibility of progress in society. Other main assumptions of neoliberalism are concerned with the need to reduce the role of the State and its responsibilities and to foster the privatization of all the public sectors as much as possible.

As a result, the following tendencies have been noted in postsecondary education:

1) The trend world-wide is less monies available for public education. Funding cuts mean reduction in resources, increase in competition, and diverse ways of course delivery (Lumby, 2001). Internationally, there are two trends for vocational education: "an increasing demand for ever greater efficiency in the use of the available funds; and encouragement to enter into partnerships to share the responsibility for investment" (King 1993, in Lumby, 2001, p. 2). This has led to institutions in searches of privatized sources of funding. The result is the commercialization of higher education as more private business sources are sought after for funding.

2) Likewise, the tendency to look at education as a commodity, with students as consumers, has increased throughout the world (Berman et al., 1999; Dubois, 1996; Johnstone, Ewell, & Paulson, 2002; Lee, Cheslock, Maldonado-Maldonado & Rhoads, 2005; Pond, 2003; Werry, 2001; West, 1999). Students numbers bring more dollars to the institutions, so institutions compete with one another for these numbers.

3) As society is marked also by a shift to information and technology-based economy, increasingly, academic managers gain greater roles in the direction of their educational institution as they bring in more monies and business connections. Moreover, administrators tend to mimic business management methods in order to run educational institutions (Lee et al., 2005). For example, in a major study of managers at further education colleges in Great Britain, Lumby (2001) concludes that many further education colleges center their mission on lifelong learning and widening participation. Also, managers think of the college as a business; managers think that learning and finance is dialectic and the two elements have to work together in synergy. As institutions mimic business models professional practice needs to examine on what criteria the change was justified (Braxton, p. 289). As institutions have less funding, increasingly part-time and contract faculty replace tenured ones. (Lee et al., 2005) As a result, managers gain more power than faculty.

4) More faculty members are encouraged to intersect with the private marketplace (63). Within such interactions, often colleges are increasingly marketing computerized learning materials (Lee et al., 2005). (p. 126). Lumby (2001), who reviewed the changes that have taken place since the incorporation of further education in 1993, notes that since the there has been a movement towards more learning technologies implemented in lieu

of face-to-face teaching. There's also evidence of anxiety among curriculum managers that they will become obsolete as more curriculum went on the colleges' intranet.

5) Increasing entrepreneurialism may degrade learning as emphasis will be placed on cost cutting and profits rather than delivering quality learning. Within this context there will be increasing disparities between the haves and have-nots as those without money will be subject to the malaise of funding cuts. As a result, there will also be heightened stratification and hierarchy in higher education. (Lee et al., 2005). With funding cuts, institutions are asked to offer vocational education to larger numbers of people without a proportional increase in funding to do this. This means the colleges try to lay the foundations rather than offering people everything--perhaps thinking that people can build on the foundations with lifelong learning (Lumby, 2001).

Likewise, technology integration at Ward-Smith seems innovative at best, but not without such blemish. Ward-Smith, like other FE colleges, were incorporated in 1993 and began to struggle with the idea of competition (Lumby, 2001) and survival. With its post-Fordist model, the ILCs are subjected to neoliberal external policies. As commonly occurs under neo-liberal policies, funding cuts to welfare and social programs such as further education is common. So like many colleges, Ward-Smith changed its management structure that emulates a private sector business model—post-Fordism. While the ILCs do not represent hastily conceived courses that may lead technology cynics to coin the term "diploma mills" (Noble, 1998)--referring to cheap courses that neither provided quality or learning--perhaps in the ILCs, as funding cuts increasingly replace teacher's presence, well-conceived courses will gradually turn into "diploma mills".

The most important post-Fordist characteristic that is questionable at Ward-Smith is the notion that as an institution transforms into a post-Fordist organization, it moves from a "control-based" organization to a "commitment-based" organization (Jaffe, 2001, p. 156). In order to establish this commitment-based organization, there was a turnover of staff who were opposed to the ILCs, as indicated by upper management who said that most people who were opposed to the ILCs are now gone. While Dillon and Walsh (1992, p. 282), stated that there needs to be a dramatic restructuring of faculty roles, they did not suggest that we do away with faculty roles altogether.

Perhaps such restructuring is a step-child of the post-Fordist model itself. While post-Fordist models offer flexibility, client-centeredness, and fast response and turn-around, workers face role change and increasing hours. Often, down-sizing and cost-cutting are part of this model. For example, increasingly, under the post-Fordist model, workers are replaced by automated technology; and teacher's work is following this pattern (Hanley, 2002). The teachers help create curriculum and lessons, and then the content becomes material for students to learn from independently. Such occurrences have led others to interpret the milieu of post-Fordism in differing ways. Vallas (1999) refers to much of the vagaries of post-Fordism in terms of flexible accumulation theory. This theory, with its basis on materialism, says that organizations distinguish between the steering core and the periphery based on price, value, and/or labor power of the categories of employees. In the case of Ward-Smith, the faculty consumed the highest price, and the greatest shortage. So, the steering core became the management, and the periphery, the faculty and ILC staff.

Faculty Marginalization. Hanley (2002) states that the focus of educational technology

should be less on attitudes toward technology, but more on understanding the relationship

between new technologies and academic labor. He warns that because faculty salaries

gouge a big chunk of university budgets, they are a choice target for cost cutting. Indeed,

many institutions have heeded the suggestions of Twigg and Oblinger, who advocate

getting more for the dollar by reorganizing teaching around instructional software. In

Britain, this has been a mandate by the government with the Dearing Report, which has

spurred many institutions to incorporate IT into their learning plans (Hazemi, Hailes &

Wilbur, 1998). The Dearing Report (1997) states:

> Over the next 20 years, C&IT will provide increasing opportunities to improve
> institutional effectiveness and efficiency. A continuing challenge to institutional
> managers will be to realize the potential and to ensure that the systems they
> introduce are used to full effect. Furthermore, there will be new and essential
> tasks that institutions will be unable to perform without significantly enhanced
> usage of their hardware and software.

Hanley warns in the following quote: "to create less labor intensive models of teaching

and learning. Controlling costs means reducing the direct, personal intervention of

faculty where possible in the teaching and learning process." (Twigg & Oblinger, 1996,

as cited in Hanley, 2002). In the end, Hanley warns, we will have students who self-

teach. Indeed the Dearing Report (1997) states:

> Within the UK, by the end of the first decade of the next century, a 'knowledge
> economy'2 will have developed in which institutions collaborate in the production
> and transmission of educational programs and learning materials on a 'make or
> buy' basis..

Moreover, in many institutions world-wide, faculty members are losing power as

they are replaced by non-tenured, contract, or part-time faculty. In Great Britain, under

Thatcher there was severe reduction in the influence of British unionism, which still

continues today. In 1987, right before the passage of the 1988 Education Reform Act

(ERA), the Teachers Pay and Conditions Bill reduced the teachers' power to bargain for

rights. The ERA also reduced the power of the Local Education Authorities which had

forged a close relationship with unions, and had money distribution power. The ERA

also created a common core curriculum and national testing for all schools in England

and Wales, restricting teacher freedom to teach whatever they liked.

Along with such changes to the overall education system, in the universities the

tenure system was abolished and a funding policy based on competition was instituted.

Blair's Labor government carried on these policies and has allowed institutions to

restructure itself under the notions of "efficiency." (Berman, et al., p. 269). Often the

result is reduced core staff working longer hours with multiple roles and bureaucratic

responsibilities. Moreover, the economy based enterprise model of schooling allows for

traditionally unqualified workers to gain access and status to occupations previously

barred to them (Ibid, p. 270). For example, in many schools, unqualified teaching

assistants are holding a bigger role in the classroom as a means to cut costs and relieve

the burdens of overworked teachers. This type of practice is criticized as a "dumbing

down" of education. As teachers increasingly see such practices, the profession looks

uninviting to the more qualified teachers who could enter the profession.

Likewise, at Ward-Smith, the weakening of faculty is apparent as the steering

core has become the upper management, not the traditional faculty. Many full-time

teaching staff has been laid off, and increasingly, part-time staff is being hired. This

trend is the result of organizational leaders who think about efficiency and progress and

equate technology with such terminologies. Similar to teaching assistants in schools

taking greater roles in the classrooms, librarians and staff are taking greater teaching roles with the aid of information technology. Moreover, increasingly, with the use of technology, there is a move to package curriculum and replace teaching time.

For over a century, educators have calculated precise formulas for organizing school practice, orchestrating specific programs and approaches down to the level of school building designs (Saettler, 1968; Godfrey, 1965), but now we have turned to technology to solve our problems. However, technology often follows a path different from its intended use. Technology may help give students flexibility and access, individualized instruction and even student-centered learning, but it may forever change the teacher-student relationship and acquire the losses that accrue from such.

This should be a concern. Higher education has as its mission the advancement of society. Boyer (1994) emphasized that the mission of higher education is intertwined with the civic mission of the country since the early 1600s. For example, land grant colleges were established to meet community needs. It is also through colleges and university students that the social conscience of the nation is expressed; protests against war, civil rights marches, promoting women's rights and the like occur often on campuses of universities and colleges. As a place for civic service learning, institutions must also convey to students the uses of education to advance society as a whole, rather than only their personal condition. Spears (2002) for example, advocates that faculty develops in students an attitude of servant-leadership. Such leadership development requires a devoted teacher and a student relationship with that teacher. Although most of the faculty at Ward Smith seems to have succumbed to upholding the business model of education where they are concerned mainly with skills that transfer into the workplace, I

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am reminded of Janet, who holds the social reform perspective. In a time when big business and government increasingly rule education, there would be tremendous loss if Janet was not teaching and relating to the students.

In a more recent study, Newman, Couturier & Scurry (2004) have joined others like Boyer (1987, 1990, 1994) in furthering this call to mission, warning that colleges and universities have further drifted away from their civic mission and replaced it with market-driven policies and competition (Ansley & Gaventa, 1997; Checkoway, 2001; Gabelnick, 1997; Gamson, 1997; Noble, 1998; Slaughter, 2001; Tang-Martinez, 2002; Wallace, 2000). They point to a growing gap between the public purposes that colleges and universities are called to serve, and the reality of how higher education is functioning. The calling is to serve the broad population for participation in civic life, "from polishing the elite to providing widespread social mobility" (Newman, Couturier & Scurry, 2004, p. 3). Instead, "the search for truth is rivaled by search for revenues." Businesses influence management to implement technology without regard for pedagogy, costs, or risk of student-faculty alienation (Noble, 1998). Under the banner of progress, efficiency and competition, higher education is increasingly becoming commercialized. Birnbaum and Shushok (1998) reinforce such suspicion stating that claims of a higher education in crisis are really serving organizational leaders into gaining "attention, power, and control of organizational control and symbolic processes in a noisy world" (p. 8).

Birnbaum (2000) posits that because higher educational institutions are loosely coupled and anarchical in nature, any new management scheme that ignores this factor will ultimately fail. He refers to the many management models that institutions have

emulated from business and have proven to be mere fads. Since higher education is

loosely coupled and made up of semi-independent academic units that are not tightly

accountable to anyone, any disruption to this system will fail. However, Birnbaum goes

on to say that management fads are inevitable and that institutions should be cautious,

consider innovation with skeptical interest, become a learning organization, avoid the

bandwagon effect; be incremental in approaching change; set reasonable expectations;

and try to make the innovation congruent to the organization's culture.

As is common under neo-liberal policies to take managerial approaches to

learning, the very ideals of education may be endangered. In the ILCs, the tendency is

toward students using packaged curriculum and teaching themselves. As faculty are

losing power to competition and the bottom line, curriculum content is de-legitimized,

and the quality of learning is at stake. Technology may have become a tool to contain

cost, rather than a tool to maximize learning. As such, the ILCs represent the many

voices who call for a return to educational values and an abandonment of market values.

<center>Implications of the Study</center>

The implications of this study point to many concerns with the learning college

movement. As we create learning centers, and virtual courses, at issue is the

effectiveness of the model of student-centered learning when technology serves as a tool

for learning. Institutions are responding to the need to create quality curriculum for

diverse students and the growing numbers of them. At the same time, there is a need to

decrease funds and compete with other institutions. As such, the ILCs seem to represent

both a cure and a symptom of the problems of higher education today. In examining the

ILC model, this study brings into question one major concern: how can Ward-Smith

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College maintain quality teaching when there are less teachers available during budget cuts? The answer lies in three responses: 1) create a climate of change based on sense-making around the mission of quality teaching for students; 2) create a model of teaching that doesn't vitiate content over process; and 3) provide a fully integrated, collaborative environment throughout the entire organization, even amongst the students.

A Change Climate

The faculty is clearly ambiguous about the ILCs. This means that the administrators have not dealt with the climate of change very effectively. Administrators need to create and plan a climate of change based on shared sense-making around the mission of providing quality learning-centered teaching.

Weick (1996) associated informational systems theory with organizational change and talked about sense making. He said that people make sense of events by filtering past events and experiences and selecting from them particular points of reference to construct meanings for themselves. The purpose of planning organizational sense making is to reduce ambiguity in messages about the environment and to develop shared meanings amongst members for collective and purposeful action to take place. The principal information activities in sense making are scanning, noticing, interpreting, and sharing of information. To understand the enactment of a shared reality we need to look at: "1. What are the shared frames of reference that make organizations possible? 2. Where do they come from? 3. How are they created, communicated, and sustained?" (Morgan, 1997, p. 141). Morgan (1997) further describes the work of Weick by saying that culture is a process of enactment of reality. This means that we proactively co-create

our world. Culture is "an active, living phenomenon through which people jointly create and recreate the worlds in which they live" (p. 141).

Shared meanings create an air of rationality, security and predictability. Sense making thereby reduces equivocality. When events change, members of the organization need to have a common stream of consciousness on which to hang a "plausible reasoning" for the event. In order to have these shared elements, management must gain trust and develop a belief in a sense of mission. For example, if, as in the ILCs, the faculty members feel there is a "hidden agenda" behind the ILCs, there is no shared sense making between the management and the faculty. The management has to openly communicate their strategies for change and explain why things are the way they are. They have to do this in ways that justify their actions for the mission, so that when faculty members search for "plausible reasoning" for why change is taking place, they have a point of reference and a common sense-making with management. In essence, the management must help the organization sort through what is happening in ways that help its members think about and understand issues around a common mission. Similarly, according to Senge (2000), there are certain core learning capabilities that enable organizations to learn and change. These include 1) aspiration, as an organization, to truly care about important issues that concern the organization 2) reflective conversation that make people aware of their own assumptions in comparison to the aspirations of the organization 3) understanding complexity and seeing interdependence of their own actions against those of others.

In summary, communicating in ways that will instill trust in the management means openness about issues, and selecting information threads that will remove

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equivocality from information and events (Weick 1979). Both the external and internal

environment influences the sense-making process (Gioia & Thomas, 2000). Both the

strategies for change and the organizational structure, especially the informational

processing structure, influence sense making. Identity and image are important variables

in sense making patterns. According to Gioia and Thomas, for change to take place in an

organization, a shift in identity must also take place. This is a tricky balance between the

core mission of the organization and a vision for the future. The change strategy must

make sense of the future goals in ways that help capture others' imagination and induce

their commitment. "Thus, strategic change requires navigating between the maintenance

of continuity and the management of disruption" (p. 371).

As members of institutions tend to process their mental schemas through both a

personal and a social filter (White, 1992), the socio-cultural environment affects sense

making. At Ward-Smith, although teamwork and collaboration is a goal, the milieu is

largely political. White suggests that depending on the power differentials and

collegiality of the organization or its subgroups, the members' thinking may be enacted

differently. Similarly, Berquist (1992) differentiates between institutions that have

collegial, managerial, developmental, and negotiating cultures. Ward-Smith would fall

under the managerial culture. In such an environment, which is also a political culture,

sense making involves using negotiation, distribution of power, u intuition and coalition

building (Chaffee, 1983).

Create a New Model of Teaching in the ILCs

Maintaining quality teaching when there are fewer teachers available during

budget cuts is a tricky issue. In writing about the transformation process of colleges into

learning colleges, Flynn (2006) lists the multiple roles of faculty as subject experts, learning mentors, and role models, learning environment designers and holistic curriculum leaders. In the previous section we discussed the importance of faculty presence in the ILCs both for content knowledge and for upholding the student-teacher relationship.

Uphold both content and process of learning. The mission of a learning college is to be learning centered. To do so, the institution has to be student-centered and at the same time deliver quality learning. While the process of learning is important in student-centered learning, so is the content.

In the ILCs, the students need four essential support functions: 1) policing of those who can't self regulate their learning; 2) guidance to resources available and how to use them; 3) guidance from a content expert; and 4) nurturing relationships for those who need more guidance in development. The ILC support staff can provide 1 and 2, and maybe even 4, but 3 and 4 can best be provided by the teacher. As teaching hours are continually cut, providing a lower-cost teaching assistant may hold the solution.

Many colleges have shown that undergraduates or peers as teaching assistants to be an effective means of carrying out learning when cost becomes an issue (Kay, 1998; Landavere & Mateik, 1999; Peckham, et al., 2003; Reges, 2003; Walters, et al., 2002). These teaching assistants are chosen from a pool of exceptional students who have taken the course. Since they have a ready knowledge of the course material, they prove to be better at teaching than graduate students who have never had the course. Providing such an incentive at Ward-Smith will mean there will also be more students willing to work harder to do better in school.

Uphold collaboration. Another way to uphold content quality while maintaining low cost is to use cooperative learning groups. The cooperative group concept matches the work place environment in which highly specialized people have to work together to solve problems. Group learning also promotes how people naturally learn by creating social constructions of reality (Karp & Yoels, 1976; Vygotsky, 1978). Additionally, because of changing demographics and globalization, increasingly students must learn how to learn together and get along despite differences in culture, views, age, gender and learning styles (Rodriguez & Nettles, 1997; Rowley, 1998). Moreover, researchers have shown how involvement in groups engenders persistence in learning (Astin, 1984; Tinto, 1993).

The ILC environment is such that it provides the ideal atmosphere for such learning. Computers are arranged in ways that are conducive to students working in groups. There are also tables set aside for groups of students to meet and hold discussions. Having students learn in cohort groups enables students of differing abilities to obtain help while at the same time students gain team skills. While some classes already use group work, further increasing group learning and encouraging collaboration will enable better learning.

Uphold full integration across curriculum. Moreover, to fully integrate learning, curriculum should be restructured to integrate across subject areas. Combining classes across subject areas will enable students to learn in real-life situations, which tend to be cross disciplinary. Such a model would mean that the ILC learning tutor staff could become experts in generic subject areas such as basic math and English (grammar and writing). Such subjects can also be supported by software that helps students learn at their own pace and provides feedback.

Math and writing would be integrated across subject areas. So, for example, a

history and a writing class that used to be two classes would become one class. A science

class could be combined with math; likewise, a marketing class could be combined with

math. The two teachers would then split their time in the ILCs, both teaching an hour

each. A teaching assistant would be present the rest of the time, so that content would

not be undermined at any time. So, instead of having classes that only had an hour and

15 minutes of teacher time, now the class would have two full hours of teaching time,

with ILC staff helping with math or grammar the rest of the time. The result is that in

larger classes, students will learn in groups, have a TA present always, and obtain the

benefits of having more teacher time, as illustrated in Figure 6. I will explain the

reasoning for such changes in the following paragraphs.
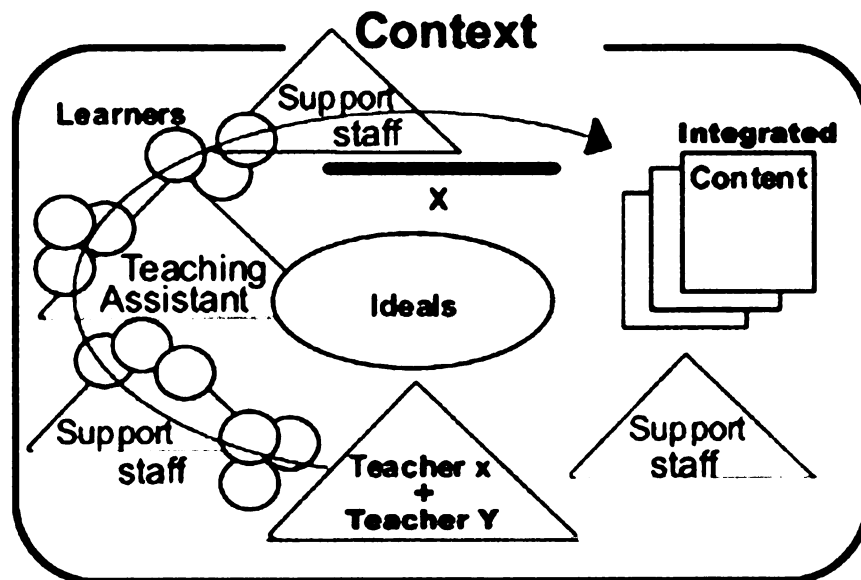
Figure 6. The Ideal ILC Teaching and Learning Model
(Adopted from Pratt & Associates, 1998, p. 46)

I propose a curriculum based on Arthur Levine's (1978) Progressivism

philosophy in which learning is based on life experience, is student-centered and

problem-oriented. Such an approach requires an integrated curriculum (Dirkx & Prenger,

1997). Moreover, such a model is in agreement with collaborative learning and what

Barr and Tagg (1995) state as a need for a paradigm shift from instruction to learning. In

addition, such a model requires that instructors focus on the general development

(Chickering, 1993) of the learner and learning, which promotes learners' self-efficacy.

With experiential learning, the above qualities are all possible. Experiential

learning is active learning (Cantor, 1995) that immerses students in "doing" learning

while reflecting on their activities. It also promotes the notion that learning environments

should be "learner-centered and learner-controlled" (Barr & Tagg, 1995, p. 21) and

relevant to the learner's needs. Experiential learning tries to build knowledge upon past

experiences (Cantor, 1995) often within a community of learners in safe learning

environments (Eison, 2002).

While most of these ideas resonate with faculty and the ideology behind the ILCs,

more collaborative work between faculty, staff and even among students is necessary

than is presently taking place. Moreover, such environments require work around

integrated disciplinary themes that match real-world experiences. Responses to the

changing nature of society into complex, highly specialized fields have created greater

diversity in curriculum rather than integration across them. Studies show students do not

transfer classroom learning into everyday life (Spence, 2001).

Because information synthesis has to cross disciplines (Weick, 2000) and

experiential learning requires relevance in learning, I also recommend a curricular model

that is integrated and cross-disciplinary. Presently, faculty do use problem and project

based learning. However, it is not often integrated across disciplines. This integration

can extend into collaboration with other community members such as knowledge experts

and business people (Strange, 1994). Unlike the present system of individualized courses and per unit credit hours, experiential learning requires an integrated design (Cantor, 1995), to offer a series of courses that are integrated around themes, problems or projects. Under this plan, academic disciplines and departments have to become integrated as well (Rowley, 1998; Weinstein, 1993), which means current divisional organizational systems (Edwards, 1999; Rowley, 1998) have to undergo transformation.

Therefore, learner centered methods such as learning contracts and adjusting curriculum according to what the students expect from the course are important (Geis, 1996). Moreover, as students learn, they will be asked to record debriefings of their learning in journals. This is important in fostering critical reflection and eliciting awareness of the "self" in the process of learning. These processes will engender the disposition of becoming self-directed and foster metacognition (Flavell, 1979; Sternberg, 1984).

In summary, my curricular model is integrated and theme based, with several instructors (from different disciplines) and knowledge experts collaborating to facilitate a large class. These students learn within collaborative groups around themes that require projects or problem solving. They own their learning by choosing when, where and how they will learn. In the process, they acquire the skills and knowledge, such as higher order thinking skills, people skills, and other abilities necessary for transfer into the work world. Such a model will enable the pursuit of excellence around the "interaction of learners, purposes, content, and processes" of learning (Stark & Lattuca, 19976, p. 109). The model would use technology and other resources, with the help of the knowledge

expert, to create a fully integrated approach, as illustrated by Figure 7.
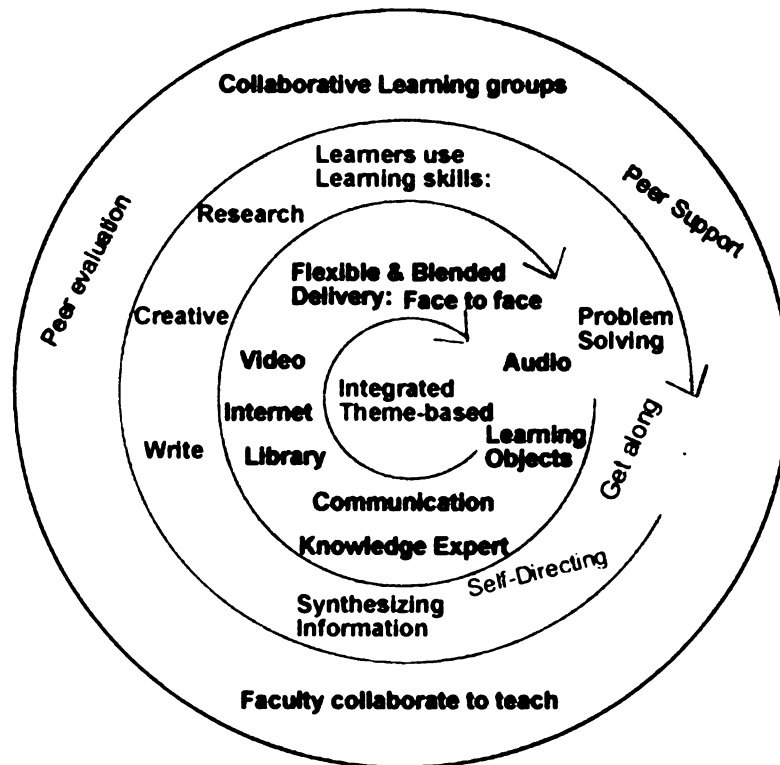
Figure 7. Integrated Learning Adopted from Dirkx & Prenger, 1997

Technology, resources and curriculum are fully integrated across disciplines.

Limitations of such a model. While such a model idealistically upholds the needs of student-centered learning, it merely reifies the values of learner-centeredness. In order for such cross-disciplinary teamwork to permeate Ward-Smith, an ongoing sense-making campaign has to instill collaborative values to overcome political in-fighting. Moreover, the college must reform their funding scheme so that subject-area divisions are able to share monies as courses meld together.

Change is gradual. The present success of the ILC model is due in part to management who knew that post secondary institutions respond well to slow, incremental change (Clark, 1998; Leslie & Fretwell, 1996; Newman & Nollen, 1998). Likewise I do not

propose that the entire college change overnight to become fully integrated across disciplines. The change process could start with purchase of math and writing lab software. Then, the integration of teaching assistants could support the absence of teachers. After these steps have been taken, perhaps only certain percentage of courses can be integrated and flexible. Then, early adopters can lead the way for others to gradually follow.

But even before such incremental change, there has to be a new cultural climate (Berquist, 1992; Clark, 1998), around a shared vision (Leslie & Fretwell, 1996) carefully inculcated by leaders. They must create a saga (Birnbaum, 1998; Clark, 1998) and sense making to help Ward-Smith through a time of change, to create stories that unify both administrators and faculty around a common agenda. Then, everyone can find ways to make decisions and engage in saticeficing (Birnbaum, 1998) around the common vision.

The existing matrix communication and organizational model helps Ward-Smith adapt well to change because change involves the Janusian concept of being both loosely and tightly coupled (Cameron, 1984). But superimposed upon that matrix could be a three pronged group that has as its goal this model of changing for cross curricular integration. One group would consist of key division heads and faculty members who propose new curriculum models. Another group has to deal with the external policy that customizes curriculum content for all FE colleges. This group would deal with the public relations and legal policies that may impinge upon such a model of change. Central to their task would be a creating new distribution of funding scheme so that monies are not divided along divisional (departmental) lines, but by functional costs. The third group would be the internal public relations people who educate and promulgate this new model

of change. Their main work involves sense making, although their administrative titles will all involve professional development of the organization. Key change managers will sit in all three groups in order to manage the change process. In the end, administrators can be organized into one centralized system and faculty can be within their own enclaves, organized around the courses they teach and the research they do under a new integrated model. Faculty would report to the administration for payroll and other paperwork (Edwards, 1999), but report to teaching and research colleagues for accountability. Successful radical re-structuring at such universities as the Rockefeller University and the Teachers College show that such change is possible (Edwards, 1999).

Summary

Like other institutions, Ward-Smith has shown that higher education is really a reflection of society (Stark & Lattuca, 1997). As government and external pressures for restructuring for student-centered learning with technology took center-stage, Ward-Smith carefully crafted its response. It created an innovative, flexible student-centered model that successfully raised retention levels and created a trend for others to emulate. It integrated technology by creating infrastructures and methods that allowed staff to adopt technology and carry out student-centered learning. They also integrated into their model teamwork concepts for both faculty and ILC staff and unified the institution under a central unified matrix communication structure. All these are what educators such as Gellman-Danley & Teague (1998) define as necessary for technology integration.

However, like businesses, Ward-Smith became caught up in "doing more with less." It instituted this concept as it translated government policies. The government funds colleges based on the concept of competition, and has provided loosely defined

teaching hours with Guided Learning Hours. The funding scheme created stress at Ward-Smith to cut costs by laying off mainly teachers, and the Guided Learning Hours provided a vehicle to safely do so.

As it stands today, the ILC model, for the most part, seems to be thriving. This is in part because the College was able to break from its traditional bureaucratic mold and transform its steering core. So, in the future, if faculty teaching hours continue to be cut and the model continues to thrive, this new structure may become the model that transforms the face of higher education in England. On the other hand, the quality of learning could be questioned by students, parents and the society at large. Most people grew up thinking that teacher presence is important in learning.

Moreover, although technology integration seems to imply inter-connectedness and inter-relatedness of faculty and staff, the patterns of beliefs at Ward-Smith suggest that there are underlying tensions that mar such connectedness. The ecological psychology and the way people interact within a given environment determine the learning success (Brown and Duguid, 1996, 2000). If faculty continues to feel vitiated, the quality of their work will be affected. Surely, then, the ILC model will represent one of the many innovations that educators have tried and once again placed into the dust-bin of history or fads.

As higher education strives for an identity and finds itself increasingly influenced by business and money, movements should arise to restore the original meaning of higher education. Many critics will remind us that if colleges fail to stand up for their virtues, they will become like businesses and lose respect in society (Birnbaum, 2000). As society's democratic principles and quality of civic life continue to decline, we need to

try to find answers through higher education (Gamson, 1997; Gabelnick, 1997), and pay less attention to production, competition, and staying ahead of our neighbors. Yet, when we strive to meet this goal, we will not come back to the same model of higher education that we know of today.

While colleges look for ways to restructure to become a learning college, a modified version of the ILCs at Ward-Smith may show the way. The answer may lie in whether the ILCs will continue to be a mere symptom of the ills of higher education today—with funding cuts, too many students, and not enough staff. Or, the ILCs could become a cure to the malaise of government's ill-conceived policies by realizing the importance of faculty. The College may have to modify the teaching model to suit both the funding cuts and the need for subject-matter experts in the ILCs. I have suggested such a modified model. The extent of the modification will depend on further research into the role of ILC staff and the role of faculty in student-centered learning.

Need for further Research

This study points to a need for more research on the scholarship of practice. Scholarship of practice refers to the need to develop a base of knowledge to guide educational administration as professional practice. In his 2005 ASHE Presidential Address, John Braxton outlines two primary goals for scholarship of practice: "a) the improvement of administrative practice in higher education b) the development of knowledge base worthy of professional status for administrative work." (Braxton, 2005, p. 286). He calls for scholars to address scholarship of practice much the same way Boyer (1990) called for scholarship of teaching.

Further studies are needed on how policy is affecting institutional behavior towards adopting market models. Research must address how such behavior should be curtailed to include the purpose and mission of the university as a proponent of improving democracy and civic life. More study is needed into ways funding mechanisms can better facilitate quality student-centered learning. Likewise, some are suspicious of student-centered learning itself. Werry (2002) talks about student-centered learning as a cover-up of the short-comings of online learning, especially the fact that there's no teacher-student face to face contact. Is student-centered learning really for the benefit of students, or is it a way of making a method of poor learning look good? Is it an excuse to marginalize faculty and cut cost but at the same time appease unruly students who want nothing more than to be left alone with a computer?

More specifically, in Great Britain, the concept of Guided Learning Hours has to be examined more closely in terms of how colleges are interpreting the policy. The external funding mechanisms and the concept of incorporating FE colleges and its effects on student learning need to be examined further in terms of the ability for colleges to be innovative. Moreover, studies need to show that institutions need to find ways to survive without marginalizing their faculty.

Research is also needed at Ward-Smith to further examine this model. While this study is taking a critical stand towards the ILCs, there are many positive elements to this model. With a few modifications implied from this study, it can become a model worthy of emulation the world over because the students seem to be thriving in this model. Therefore more research is needed to examine how the students are learning in the ILCs and the quality of learning they are receiving. Along the lines of a similar study, it would

also be informative to look at how the students are using technology and other resources to aid their learning.

Further, this institution calls for a study of transformation of the organization itself. Has this organization truly transformed? Such a study will also reveal different kinds and categories of transformation, because while some institutions transform with a culture of change, transformation in other institutions often involves turnover of staff. Further, a study about change and change process may reveal other issues in the ILC model, such as pedagogy adoption. A closer look at faculty beliefs and the process of change would involve following the faculty's beliefs toward the ILCs from start to finish. Such a study would show whether the faculty did indeed engage in perspective transformation.

Most importantly, researchers need to examine, more closely, how student-centered learning is being carried out in the ILCs. Such a study will determine the extent to which the faculty can play a crucial role in student learning. Additionally, a study is needed to examine the life of ILC staff more closely in order to determine their relationship and effectiveness in terms of student-centered learning. How much time the faculty needs to spend with students is a question for further research. Such a study should examine what the ILC staff is able to do as facilitators in comparison to what the faculty is able to do with the help of staff. Such a study will show whether or not the teacher's subject matter expertise is important in guiding learning; it will show whether the importance of the teacher-student relationship can be replaced by staff-student relationship.

APPENDICES

(Appendix A) BACKGROUND QUESTIONNAIRE
We are conducting a study about the teaching and learning in the ILCs. Your participation in this study is very important and your privacy is one of my main concerns. The information you provide in this questionnaire will be kept confidential.

About You

Name: _____ Date:_____

Gender: F ____ M ____ Age: _____

Are you working: (Circle one) Part-time Full-time

What is your job title?

_____

_____

Briefly describe your responsibilities within this position:

_____

_____

How many years have you been teaching at this institution? _____

How long has your department had an Integrated Learning Center?_____

How long have you been using the Integrated Learning Centers?_____Years

How many classes have you taught in the Integrated Learning Centers?

_____

About your computer skills:
How comfortable are you in working with computers?

Very Comfortable   Very uncomfortable
    1   2   3   4   6   7

Do you have your own computer at home? (Circle one) Yes No

I use the ILCs for:
a) All my classroom work (I conduct my entire class in the ILC)
b) As ½ my classroom work (I combine with regular class lecture time)
c) I just assign homework for students to use the ILCs.
d) I don't use the ILCs very much, if at all.

(Appendix B.1) <u>Interview Protocol for Administrators</u>

Instructions:

My name is Christina Dokter. I wanted to meet with you just to talk a bit about teaching and learning at your college. I am interested the Integrated Learning Centers (ILCs). I'd like to tape record this session if I can, so that I don't have to worry so much about taking notes while we talk. You don't have to worry, none of what you say will be seen or heard by others and your work will not be affected in any way. We will not put your name or any other identifying comments you might ask on any printed version of this interview so that others will not know your identity. Your name will not be associated in any way with what you say here in any kind of report or publication resulting from this research.

Any questions before we begin?

1. Describe for me your work experiences in education. What are/were you responsible for?

    • How long have you worked in this position?

    • What are/were your responsibilities?

    • How did you get involved in this institution?

3. Describe for me your experiences in the past with computer technology.

    • What went well? What did you particularly enjoy?

    • What caused problems? What was less enjoyable?

4. Describe the history of educational technology at this institution.

    • Was there another educational technology system in place previous to the ILCs?

    • Tell me about how the department went about making the decision to create ILCs. Where did the idea come from?

    • Who was involved in the decision to create the ILCs?

    • What things influenced the decision?

5. Describe how the incorporation of ILCs affected others around you when the decision was being made.

   a. What were the steps that followed?

   b. How did your department change after the adoption of the ILCs?

6. What stands out for you about your experience in this work environment of the ILCs?

   - In what ways, if any, has working with the ILC project influenced you?

   - In what ways has this project influenced your thinking about your own work or practice?

   - As a result of this experience, is there anything you are doing differently at work?

   - How do you think the ILCs have influenced your co-workers?

6. How did you and others approach faculty with the ILCs?

   - What programs were created to help faculty adjust to using the ILCs?

   - How do you approach faculty when talking about the ILCs?

7. In retrospect, what are some incidences that stand out in relation to faculty use of ILCs?

8. Describe for me your past experiences in the ILCs. Please focus on a few memorable experiences.
   - What events stand out for you about your in the ILCs?

   - What are some positive influences of technology that you have had? What did you particularly enjoy?

   - What are some negative influences of technology that you have had? What was less enjoyable?

9. Is there anything else that you would like to share with me about your overall experience teaching and learning with technology at your institution?

Thank you for talking to me today.

Instructions:

My name is (Christina Dokter). I wanted to meet with you just to talk a bit about teaching and learning at your college. I am interested the Integrated Learning Centers (ILCs). I'd like to tape record this session if I can, so that I don't have to worry so much about taking notes while we talk. You don't have to worry, none of what you say will be seen or heard by others and your work will not be affected in any way. We will not put your name or any other identifying comments you might ask on any printed version of this interview so that others will not know your identity. Your name will not be associated in any way with what you say here in any kind of report or publication resulting from this research.

Any questions before we begin?

1. Can you describe for me your educational background?

2. Describe for me your experiences in the past with computers.

   • What went well? What did you particularly enjoy?

   • What caused problems? What was less enjoyable?

   • How do you feel about learning with technology in general?

3. What are your overall goals and hopes as an instructor at this institution?
   • What do you understand learning to be?
   • What makes teaching important to you?
   • How do you define your role and responsibility?
   • If someone were evaluating your (or someone else's) teaching in this institution, what would they expect you to be doing?
   • How would they know you were doing that?

4. How would you describe your learners?
   • What do they bring to the learning situation that might influence their learning or your teaching?
   • What are some factors, histories, or problems that might impede their learning?

5. How do you decide what to teach and what should be learned?
   • What do you want people to learn?
   • What might be difficult about learning that?
   • Is there an order or structure to your content that is important to learning it or teaching it?
6. Describe your typical day when you are in the ILCs (for users).

- Describe the circumstances that frame your teaching in the ILCs
- Does the context of the ILCs influence either your students' learning or your teaching? How?

7. What was the creation of the ILC like in your department?

- How were you involved in the decision to create the ILCs in your department?

- What kinds of preparations/training/orientation were you given in order to or learn in the ILCs?

- How do you think the opening of the ILCs have influenced your fellow co-workers?

8. Describe how the incorporation of ILCs affected others around you when the decision was being made.

   c. What were the steps that followed?

   d. How did your department change after the adoption of the ILCs?

   e. What relevance does the ILC have for your teaching?

9. In what ways, if any, has working with the ILC project influenced you?

- In what ways has the ILC influenced your teaching? Your beliefs about learning?
- In what ways has learning in the ILCs influenced your thinking about learning?
- How is teaching in the ILCs different from regular classroom teaching?

10. How has your participation in the ILCs influenced your relationship with your colleagues?

11. What challenges or barriers have you or others needed to address as you have gone about working in the ILCs?
    - In what ways could the ILCs be improved?

12. What do you expect the ILCs will do (or does) for the college?

13. Can you name any ideals, beliefs or values that influence your teaching, and which would be important to understand if someone were evaluating your

teaching?

14. Describe for me your past experiences in the Integrated Learning Centers. Please focus on a few memorable experiences.
   - What events stand out for you about your work in the ILCs?
   - What are some positive influences of technology that you have had? What did you particularly enjoy?
   - What are some negative influences of technology that you have had? What was less enjoyable?

15. Is there anything else that you would like to share with me about your overall experience teaching and learning with technology at your institution?

Thank you for talking to me today.

Consent Form

Participant Information for Research: Faculty Response to Technology Integration For Student-Centered Learning: A Case Study of a Systems Approach to Organizational Change

The purpose of the study is to help us understand how higher educational institutions approach technology.

Your participation will include the following:

- Filling out an online survey. This survey will take approximately 10 to 15 minutes to complete. By filling out the survey, you are giving consent for the researchers to use the data collected from your responses.

- As a result of the above survey, you may be chosen for further study that involves interviewing and/or observation of you in your work setting.

Materials gathered from this study will remain in the researcher's possession for approximately one year after the research is complete. All materials' will be coded immediately upon data collection to mask the true identity of the interviewees. All recorded materials will be destroyed within one year after the research is completed. Until that time, the data will be stored in a basement office, in a locked file drawer in the researcher's home. When we write the results of the research, we will mask your identity and present data in ways that will protect your identity. Neither your identity, nor the identity of the college will be revealed. You are free to decide not to participate in this study or to withdraw at any time. Your decision will not result in any loss of benefits to which you are otherwise entitled.

If, as you reflect upon your participation, you have any questions or concerns, please contact:

Christina Dokter,
65 Three Oaks Drive,
Okemos, Mi. 48864.

(517) 655-8407
email: dokterch@msu.edu.

Project Investigator:

Dr. John Dirkx, Professor in Educational Administration

Michigan State University
419 Erickson Hall
East Lansing, MI.
(517)353-8927
Email:dirkx@msu.edu

For questions about your rights as a human subject of research you may contact:

Peter Vasilenko, Ph.D., Chair   **PHONE (517) 355-2180**
202 Olds Hall,   **FAX (517) 432-4503**
Michigan State University   **E-MAIL – UCRIHS@msu.edu**
East Lansing, MI 48824-1047

In order to verify your willingness to participate, this letter includes a form section with a signature line where your written name will indicate your informed consent. I am enclosing two copies of this letter. Please sign and date one copy and return it to me in the enclosed stamped envelope. You may retain the other copy for your own records.

Your participation will contribute valuable information to the literature about professional development and technology.

Christina Dokter

INFORMED CONSENT

I consent to audio-taping of the interview:

     Yes ☐

     No ☐

I voluntarily agree to participate in this study:

Name _____

Date _____

(Appendix C) Observation Protocol:

This observation protocol was developed from initial, informal observations and from the 6 principles of a learning college as developed by O'Banion (1997):

Date: _____ Time: _____ Teacher: _____

Learning - centeredness	Description of what it would look like	Observation
Learners seem self-directed, having the primary responsibility for their learning	They own their learning by seeking out information. They ask for help when need.	
Learners use multiple resources to learn	Learners read books, look at the Web, search the Web, use other media such as software, videos, and audio tapes	
Learners participate in collaborative learning activities	Learners engage in group learning activity formally and informally by asking each other questions and discussing.	
The instructors and support staff define their roles according to the needs of the students	Instructors attend to students questions; attend to special needs; support people help students when needed	
Assessment is ongoing and based on experiential learning of the learner.	Project-based assessments as well as other ongoing assessments are present, according to the needs of the learner	
Students show substantive change as learners	Students seem actively involved in learning. They don't seem bored, sleepy, distracted from work.	

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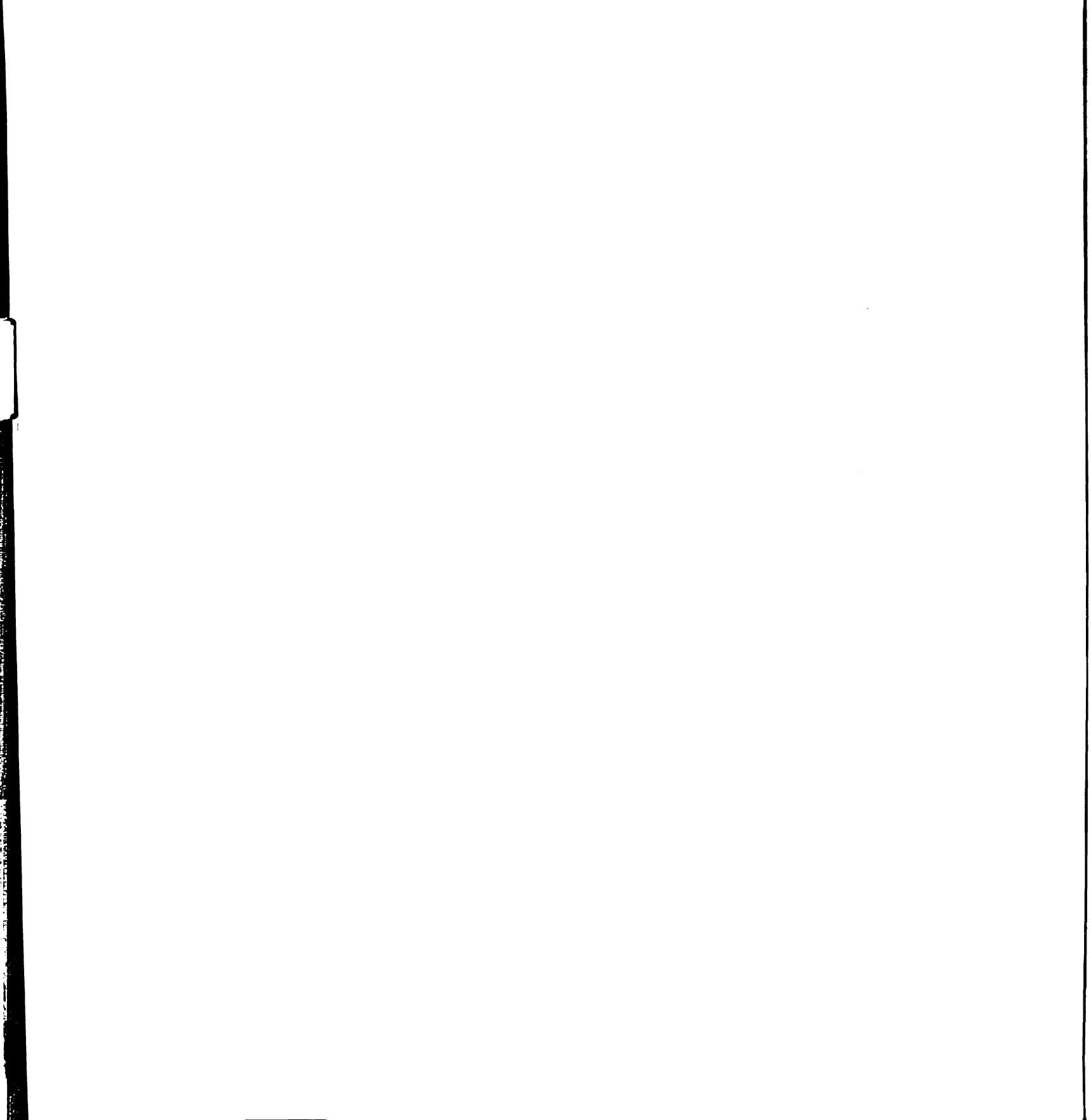
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